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George Baker
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Art Director

George Post

Production Manager

Consultants

Materials Handling: Matthew W. Potts
Transportation: John H. Frederick
Packing and Packaging: Allyn C. Beardsell
Legal: Leo T. Parker

Advertising Staff

Eastern States

H. S. Webster, Jr.
100 E. 42nd St., New York 17, N. Y.
Telephone: MUrray Hill 5-8600

Central States

Hiram L. Roberts
859 Leader Bldg., Cleveland 14, Ohio
Telephone: SUperior 1-1080

Middle West States

A. H. Ringwalt
30 N. Dearborn St., Chicago 2, Ill.
Telephone: FRanklin 2-0829

Western States

McDonald-Thompson
625 Market St., San Francisco 5, Cal.
Telephone: YUkon 6-0647

3727 W. 6th St., Los Angeles 5, Cal.
Telephone: DUinkirk 7-5391

Terminal Sales Bldg., Seattle 1, Wash.
Telephone: MAine 3860

115 S. W. 4th Ave., Portland 4, Ore.
Telephone: ATwater 7401

222 Colorado National Bank Bldg., Denver 2, Colo.
Telephone: MAin 2773



THE COVER

Gerald Robeaud (left) vice president in charge of tooling, points out to Byron Smith, chief layout engineer at McCulloch Motors Corp., how he plans to relocate a shop area. They are standing over a model floor layout (see lead article, Page 19). Built to exact scale, the model takes costly guesswork out of departmental layout changes and handling problems.



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JUNE, 1952

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Chestnut and 56th Sts., Philadelphia 39, Pa.

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JUNE, 1952

In This Issue...

FEATURES

Model Layout Integrates Traffic and M H.....	James Joseph	19
GE Saves \$20,000 on Scrap Handling.....		22
Lazy Susan, Busy as a Bee, Works for TCA's Commissary	Michael M. Gutwillig	24
NEGLECT Boosts Truck Operation Costs.....	W. L. VandeWater	26
8 Points for Refrigerated Warehouses.....	Lloyd Moore	28
What to Look for in a High Lift Fork Truck.....	D. O. Haynes	31
Conveyor-Carton Sealer Cuts Handling Costs.....		32
Uniform Sales Act Cited as Key Legislation.....	Leo T. Parker	34
Three Fork Trucks Perform Big League Operation.....		35
Knudson Outlines Problems Facing Warehouse Industry.....		36
LCL Shipments Stay on Ice.....		3
Modern Public Warehousing—A Tool to Cut Distribution Costs	John H. Frederick	38
Conveyor Handles Paperwork.....		39
MoPac Opens New St. Louis Terminal.....		50

DEPARTMENTS

On The Line—Editorial Comment.....		7
Letters to the Editor.....		8
Chuting the News—Coming Events.....		11
Men in the News.....		13
Washington DA	Karl Rannels	15
New Products		42
Free Literature		46
Obituaries		58
Plant Expansion		62
Within the Law	Leo T. Parker	64

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AUTOMATIC FIRE DETECTION and ALARM SERVICE



Automatic Fire Detection and Alarm Service



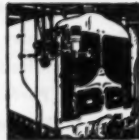
Sprinkler Supervisory and Waterflow Alarm Service



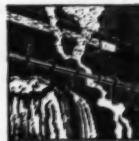
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No matter where fire may start . . . no matter what the hour of day or night . . . Aero *automatically* detects the incipient blaze and *automatically* summons fire-fighting forces.

This protection service is available through ADT Central Stations in principal cities of the United States. Elsewhere, the same protective systems, including all-important ADT inspections, tests and maintenance, may be provided for local operation or direct connection to fire or police departments.

Write for details on how ADT Services may be applied to effect better fire protection at less cost.

ADT



In addition to the prompt and efficient handling of alarms, ADT Service includes the following all-important fundamental features, without which there is little assurance that any protective signaling system will function properly when an emergency arises:

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The Tide Has Turned!

OUR editorial comments for this month were soberly wrapped around current problems affecting transportation. When the Supreme Court made its historic decision in the Steel case, sobriety gave way to uninhibited, jumpin' joy.

"Man," said we to ourself, "Do you realize that you can go home tonight feeling that it still is your castle?"

... "That the business which you founded, developed or purchased—even if only a small financial interest—still is your business?"

... "That not only Labor but Management has some inalienable rights?"

... "That the Congress still is our law-making body?"

... "That those vague 'inherent powers,' under which the President seized Steel would have invalidated every citizen's rights of property ownership—in fact, legally establish Dictatorship in absence of Law?"

How many people, we wondered, fully realize the import of that momentous Supreme Court decision? We think it sufficiently important to warrant establishing a national holiday to celebrate—with prayer and thanksgiving—the turning of America's leftist tide and a return, we hope, to the sound basic precepts upon which this Nation was founded.

While the Supreme Court's decision had a salutary effect, we do not think the matter should end there. When the President takes his oath of office, he promises to uphold and administer the laws of the land. That obligation implies *all laws*, whether any be personally obnoxious or politically inexpedient—such as the Taft-Hartley Act.

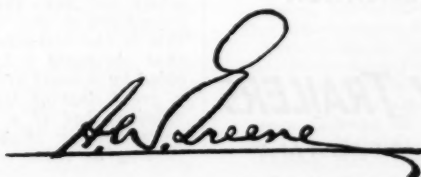
Invoking the Taft-Hartley Act now would not solve the problem—even Senator Taft admits that. It would, however, give us two million tons of steel a week while the new negotiations are under way.

Something must be done, that's for sure. The Bills being dreamed up in the House and Senate will not, in their present form, provide the solution. They still point to the left.

At the risk of being labelled anti-labor, we feel it incumbent upon our right of freedom of expression to say that the cure lies in eliminating the power of Labor to paralyze an industry and affect the rights and well-being of the nation. Surely, we have the intelligence in this land of ours to achieve this without depriving Labor of its justly-gained benefits.

The national welfare and well-being of Business, Labor and the Public is dependent upon the establishment of an environment that will permit the maximum exercise of initiative and enterprise on the part of all—consistent with the recognition of, and the respect for, the rights and privileges of others. The Bill of Rights was not established for one particular class.

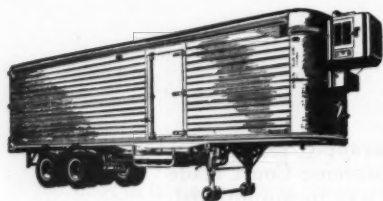
The ruthless Kings, Princes and Barons of industry are gone. Now, the pendulum of Time has swung Labor in the same dominant position. It's time for a change—not backward, to be sure. Let's ban the extremes and work toward the mean—UNITY. Let's get government out of Business. The American system of Free Enterprise is for Labor as well as Business Men.



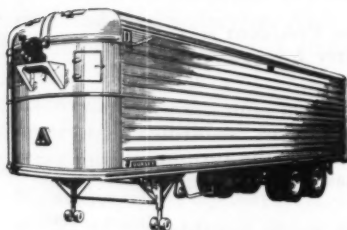
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LETTERS

TO THE EDITOR

DA Is Flood Victim

To The Editor:

Will you please send to us at Kansas City and at your early convenience one of your 1951 Directory issues? During the flood here, we lost much of our office equipment, office furniture and files, and the one loss that disturbs us most is the loss of Annual Directories of DISTRIBUTION AGE which carried back several years.

R. Frank Wallace
Vice President

Crooks Terminal Warehouses, Inc.
Kansas City, Mo.

DA regrets the flood damage, in Kansas City and elsewhere, but is pleased to oblige with a 1951 Directory.—Ed.

What's An "Original Package"?

To The Editor:

We regularly import carloads of pulpwood logs from Canada which are stock-piled on our Rhinelander property . . . a short switch-haul from the mill where they are used. Are these logs still to be considered in the "original package" and therefore not subject to local property taxes? At the time of shipment, they are loaded into open-top cars and the lading is packaged in any fashion . . . since the bark is still fresh on the logs . . . this natural protection might be considered in the category of an outer wrapper for shipping protection.

Could we retain the interstate character on this material by consigning it to a storage operator here, who would then send it to our mill by rail or truck as needed?

F. E. Schueppert
Traffic Manager

Rhineland Paper Co.
Rhinelander, Wis.

It is my opinion that you cannot retain the interstate character of this material by consigning it to a storage operator who would hold it until receiving your orders for reshipment. In other words, the higher courts very clearly hold that any stoppage in transit of this nature automatically cancels the interstate character of the shipment.

Now with respect to whether logs which still have the bark thereon are considered in the "original package," this is the instance in legal question that obviously would have to be decided by a court after presentation of a great deal of testimony. It is my opinion that if a plurality of logs were tied or chained together, that so long as these packages were per-

mitted to remain intact, taxation might be avoided on the "original package" plea.—Leo T. Parker, Legal Consultant.

Is Warehouseman Liable?

To The Editor:

When we attended the Mayflower Convention in Cleveland, Leo T. Parker mentioned the application of the Soldier's and Sailor's Relief Act.

As we recall it, he said that if a warehouse wishes to sell the goods of someone in the service it can do so providing that the warehouse contract has been acknowledged by the owner and the terms and conditions have been agreed to. In the terms and conditions, there is a clause which gives the warehousemen authority to sell goods if the charges are in arrears.

W. R. Gallup
Vice President

Boyd Transfer & Storage Co.
Minneapolis, Minn.

Modern higher courts consistently hold that a warehouseman is liable if he sells stored goods which belong to a person in military service unless the warehouseman obtains consent of a court to sell the goods. This law is applicable from the moment the owner of the goods receives notice to report for military service, and for three months after his discharge. Here are brief references:

Appendix Sections 107, 517 of the U. S. provide that if a person in military service signs a contract after he is in service, giving the warehouseman authority to sell the goods, such contract is valid.

Generally speaking, a warehouseman must file suit and allow a court to decide, under ordinary circumstances, whether he can sell stored goods to secure overdue charges. See Section 531. If a soldier is financially able to pay, the court will order him to make payment. See Section 531. The laws are not intended to protect servicemen who can and are able to pay. If a serviceman cannot pay, the court may (1) stay proceedings or (2) make any other reasonable disposition of the case, the warehousemen's penalty for violating any of these laws is one year imprisonment or \$1,000 fine. Also, the owner of the goods may sue and recover damages from the warehouseman.

In my opinion, you cannot, without liability, sell goods although your original contract with the serviceman contains a clause to this effect.—Leo T. Parker, Legal Consultant. (Also see Within The Law—Transportation, in this issue.—Ed.)

Three-Year-Old Rail Dispute Ends; Owners Take Control of All Roads

Government operation of the nation's railroads, which has been in effect since Aug. 27, 1950, came to an end May 23 when the carriers reverted to private operation.

The move followed earlier acceptance by management representatives and officials of three railroad unions of a proposal made May 19 by Presidential Advisor John R. Steelman for settling the three-year wage-rule dispute.

Railroads have already begun the gigantic task of computing retroactive pay for the thousands of employees involved. The employees will receive from \$600 to \$1,100 each in back pay, costing the carriers in excess of \$100 million. Management accepted the proposal first, followed by two days by labor.

—DA—

American Chain Conducts 41st Annual Meeting

Fifty-seven member houses were represented at the 41st annual meeting of The American Chain of Warehouses in New Orleans, May 3. Following an address by Willard A. Morse, retiring president, Minneapolis, Minn., the group discussed sales, service and other conditions in respective territories. A. N. Drake, Newark, N. J., was named president for the coming year. Other officers named were: Kenneth Christie, Butte, Mont., vice president; Joseph N. Pettit, Fort Wayne, Ind., treasurer, and John W. Terreforte, New York, N. Y., executive secretary and assistant treasurer.

—DA—

Government Strengthens Restrictions On Privately Owned Warehouses

It has been revealed that the Agriculture Department has quietly tightened up on its rules governing the storage of government commodities in private warehouses.

In force for approximately six weeks, the new rules demand more frequent inspections of warehouses where government goods are stored, and require prospective storers to put up higher bonds to cover their liabilities.

Although Secretary Charles Brannan hasn't yet approved the rules officially, it is reported that they were put in effect after the department announced that storage shortages now total between \$7.5 million and \$8 million. There is speculation that bonds required on all warehousemen will be "at least doubled."

—DA—



A. N. Drake

Packaging & MH Institute

Concurrent with the Fourth Western Packaging and Materials Handling Exposition in Los Angeles, Aug. 12-14, a Packaging and Materials Handling Institute will be conducted under the auspices of the University of Southern California and the Los Angeles Chamber of Commerce.

—DA—

Unloading Fees Cut

ICC has ordered a general 40 per cent reduction, effective July 3, for unloading fees charged shippers who handle fresh fruits and vegetables at Philadelphia and New York. Railroads affected by the order are the Baltimore & Ohio, Erie, New York Central, Pennsylvania and Reading.

(Please Turn Page)

Coming Events

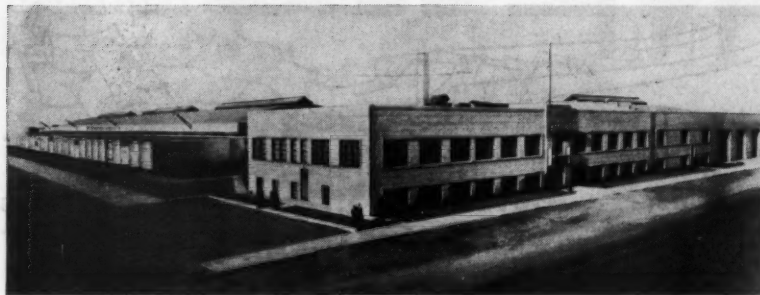
June 1-4—National Freight Traffic Assn., spring meeting, Greenbrier, White Sulphur Springs, W. Va.
June 4—Customs Brokers and Forwarders Association of America, Inc., annual meeting, Fraunces Tavern, New York.
June 2-13—Canadian International Trade Fair, Toronto, Canada.
June 4-14—Third Mechanical Handling Exhibition and Convention, Olympia, London.
June 9-13—Third Annual Conference on Industrial Research, Columbia University, New York, N. Y.

June 16-20—Industrial Finishing Exposition, Conrad Hilton Hotel, Chicago, Ill.
June 17-20—National Freight Claim Council, American Trucking Associations, Inc., membership meeting, Omaha, Neb.
June 23-26—Canadian Warehousemen's Association, annual convention, Hotel Vancouver, Vancouver, B. C.
June 29-July 2—Material Handling Institute, mid-year meeting, Grand Hotel Mackinac Island, Mich. All materials handling industries are invited to attend.
Aug. 12-14—Fourth Western Packaging and Materials Handling Exposition, Shrine

Convention Hall, Los Angeles, Calif.
Sept. 18—Material Handling Institute, meeting, Cleveland Hotel, Cleveland, Ohio.
Sept. 20-24—National Freight Traffic Association, fall meeting, Lake Placid, N. Y.
Oct. 7-9—National Association of Shippers Advisory Boards, meeting, St. Louis, Mo.
Oct. 14-16—Society of Industrial Packaging and Materials Handling Engineers, seventh annual exposition, Chicago Coliseum, Chicago, Ill.
Dec. 18—Materials Handling Institute, meeting, Hotel Statler, New York, N. Y.

Chuting the NEWS

(Continued from Preceding Page)



Spector Unit Completely Palletized; Boasts Mechanized Dock Operation

Formal opening of the new Chicago Terminal and national headquarters of Spector Motor Services, Inc., was celebrated late last month by more than 1200 employees and representatives of the trucking industry. Spector's new installation, called the nation's first and largest planned truck terminal area, features a completely mechanized dock operation.

The new terminal covers an area of nearly 500,000 sq ft, embodies the latest advances in electronics equipment, pneumatic message sending devices and opera-

tional procedures. It also features Chicago's only completely palletized freight handling system.

Opening of the Chicago unit climaxed a Spector Terminal Building Plan which has seen the inauguration of 15 new terminals in leading cities. With single control tower direction, Spector freight is handled by 20 mobile truck lifts. The dock itself is nearly 400 ft in length with an enclosed portion which can accommodate 72 trailers, and has a capacity of 1,850,000 lbs of freight per day.

Cragg Heads MH Show

R. C. Cragg, Chicago Regional Manager, Gould-National Batteries, Inc., has been named general chairman of the 7th Annual Industrial Packaging and Materials Handling Exposition, scheduled for the Chicago Coliseum, Oct. 14-16.

University Gift

J. L. Hudson's have presented a gift for \$15,000 to Wayne University, Detroit, Mich., toward the establishment of a Materials Management Center at the university.

Ocean freight rates to Europe have increased as much as a-dollar-a-ton due to Government withdrawal of its own merchant vessels—200 craft put on the shelf since March 1.

Fork Truck Rodeo

The Connecticut Valley Materials Handling Society has scheduled a Materials Handling Show and Fork Truck Rodeo in the Arena, New Haven, Conn., June 10. Built around the slogan, "Last Frontier for Cost Reduction," the show will feature an all-day competition for fork truck drivers in two classes, gas and electric.

ICC Elects Alldredge

The Interstate Commerce Commission elected J. Haden Alldredge as its chairman for one year, beginning May 1. He succeeds John L. Rogers.

Election of Officers

Distribution Service, Inc., elected Frank Burns president at its annual meeting in New Orleans last month. Other officers named were: A. M. Lounsbury, vice president; H. F. Partridge, treasurer, and J. G. Temple, secretary.

A newly established national committee on highway taxation, formed by ATA, will combat what ATA calls "efforts to impose punitive and ruinous taxation on the trucking industry."

Allied Distribution Inc. Holds 19th Annual Meeting



W. D. Leet was reelected president and made treasurer of Allied Distribution Inc., at the 19th annual meeting in New Orleans May 4. Also renamed were Walter P. Taylor, vice-president, and Mrs. Vera Watkins, secretary. R. E. Abernathy and E. G. Mooney were named to the Board of Directors. Shown above are—Front row, left to right: Q. L. Porter, Little Rock; R. E. Abernathy, Dallas; Don Heckler, Albuquerque; F. D. Bateman, Chicago; R. W. Marion, Waco; M. M. Stern, Kansas City; Larry Thurston, Hutchinson; F. J. Trossett, Utica; W. D. Leet, Chicago; E. G. Mooney,

Hartford. Second row: J. G. Hyland, Hartford; W. P. Taylor, Chicago; Ben Silberman, Houston; J. J. Finn, Denver; James Murray, Denver; A. W. McTavish, San Francisco; L. McGehee Porter, Birmingham; R. A. Robertson, Orlando; E. L. Becker, Cincinnati; Ray Hamilton, Cincinnati. Third row: J. E. Wilson, Buffalo; John E. Flynn, New York; C. C. Adams, Columbus; T. L. Hansen, Milwaukee; C. A. Miller, New Orleans; R. A. Ford, Omaha; C. H. Geib, Akron; Curtis Lattimer, Toledo; T. H. Duke, Jacksonville; C. H. Frazee, Akron; H. H. Lederer, Cleveland.

IN THE NEWS

Materials Handling

Ross Miller—appointed vice president and general manager, National Lift Co., Waukesha, Wis.

Robert F. Moody—appointed eastern division industrial truck sales manager, Hyster Co., Portland, Ore.

H. H. Hippler—named assistant director, sales and advertising, Gar Wood Industries, Inc. **R. F. Whitworth**—named to succeed Hippler as manager of Gar Wood's branch division.

E. H. Woodberry—appointed sales manager of the pallet loader line, Lamson Corp., Syracuse, N. Y.

O. S. Carliss—new director of engineering, Philadelphia Division, Yale and Towne Manufacturing Co., succeeding **Charles S. Schroeder**.



George F. Quayle—is assistant director of engineering, Philadelphia Division, Yale and Towne Manufacturing Co.

Gordon J. Berry—elected president of Electric Products Co., Cleveland, Ohio.

Bob Fletcher—promoted to eastern parts and service manager, Hyster Co., Portland, Ore.



Wilton G. Smith—new district manager, mid-central territory, Hyster Co., Portland, Ore., to work with Hyster dealers in three area cities.

John J. Connell, St. Louis area representative of Automatic Transportation Co., Chicago—elected chairman of the Chicago Electric Industrial Truck Manufacturer's Advisory Council.

Transportation—Air

Guy M. Springer, manager of cargo sales for Capital Airlines—elected chairman of the Cargo Advisory Board, division of Air Traffic Conference of America.

M. F. Frankel—is manufacturing director of Amgears, in Chicago.

(Please Turn to Page 58)



Photo above shows a portion of the group in attendance last month at the 18th Annual AWI meeting. Seated, left to right: **A. R. O'Dell, Jr.**, treasurer, Jacksonville, Fla.; **Charles A. Schurman**, Providence, R. I.; **C. A. Webster**, AWI, New York; **P. W. Frenzel**, St. Paul, Minn.; **O. M. Koon**, Dallas, Texas; **W. C. Strobel**, Saginaw, Mich.; **Harry W. Hudson**, Tampa, Fla.; **Stewart C. Johnson**, San Antonio, Texas; **Leon Rose**, Memphis, Tenn.; **Ben Fontaine**, New Orleans, La.; **M. A. Young**, Baltimore, Md.; **G.**

W. Thompson, Chattanooga, Tenn.; **B. C. Hubbard**, Grand Rapids, Mich.; **S. J. Lusby**, East St. Louis, Ill.; **George Lacay**, New York, N. Y.; **S. W. Brooks**, Minneapolis, Minn.; **Fred C. Hubbard**, Grand Rapids, Mich.; **A. Robinson**, Houston, Texas; **H. M. Overmyer**, Toledo, Ohio. Standing: **Clyde E. Phelps**, executive secretary, AWI, Chicago; **Curtice B. Robertson**, chairman of the board, Oklahoma City, Okla.; **Leo Pistorino**, president, Boston, Mass.; **B. A. Strohm**, vice president, Indianapolis, Ind.

Members Discuss Sales Programs, Elect Officers At A.W.I. Session

The 18th Annual Meeting of Associated Warehouses, Inc., held during the annual convention of the American Warehousemen's Association, was attended by 32 warehousemen who devoted the major part of their business session to a discussion of sales plans for the next 12 months. Plans included a stepped-up program of advertising, and increased traveling and personal sales activity.

Round-table discussions, one of which concerned the use of portable storage racks to handle pallets

where LCL shipments are involved, introduced many good ideas in connection with new equipment.

The following officers were elected to serve during 1952-1953: Chairman of the Board, **Curtice B. Robertson**, The Public Warehouse Co., Inc., Oklahoma City; President, **Leo Pistorino**, Bowker Storage & Distributing Co., Inc., Boston; Vice-President, **B. A. Strohm**, Strohm Warehouse & Cartage Co., Inc., Indianapolis; Treasurer, **A. R. O'Dell, Jr.**, Jacksonville; Executive Secretary, **Clyde E. Phelps**, Chicago.

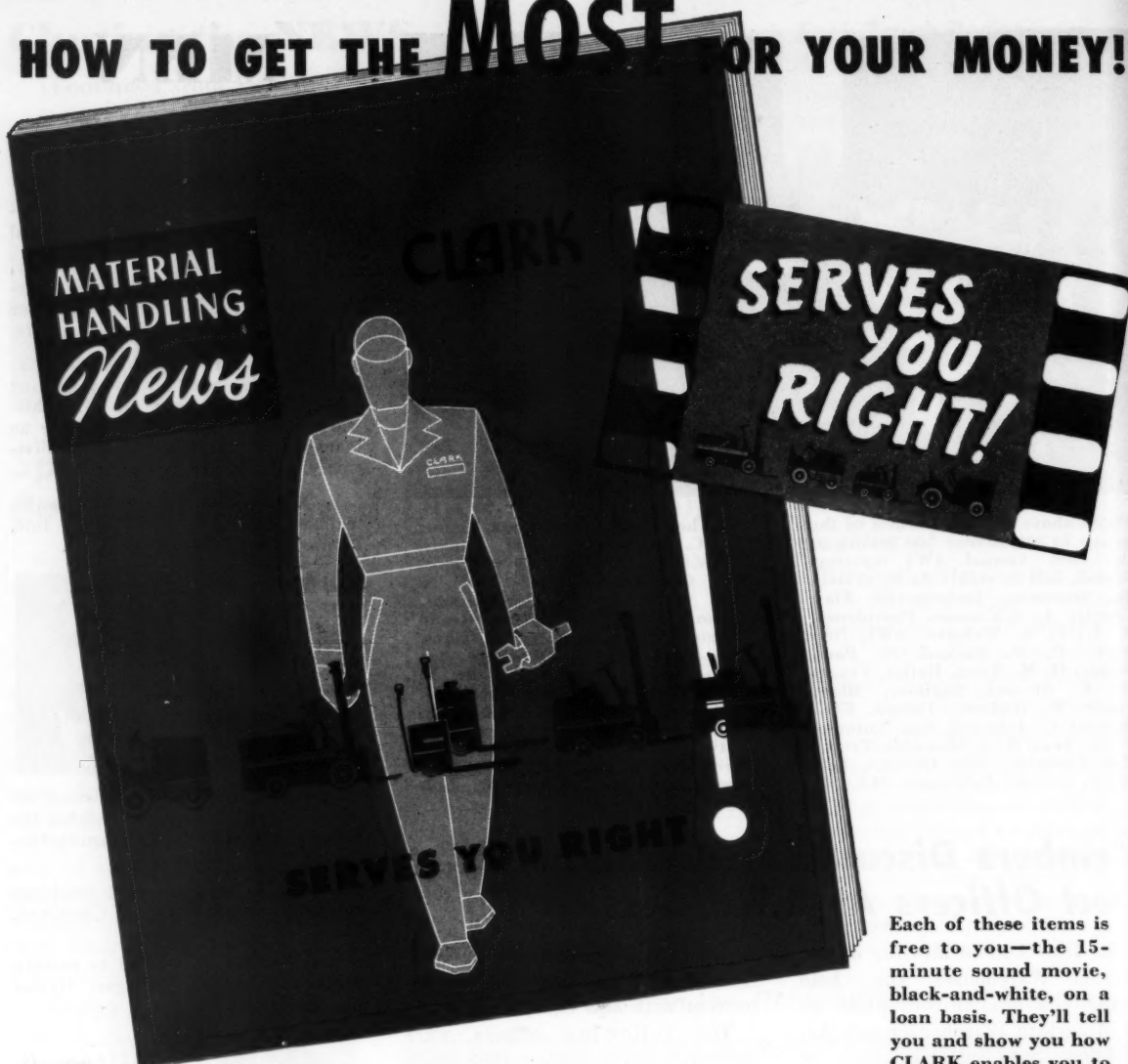
Commodity Changes

The National Association of Purchasing Agents reports the largest number of price declines in May since Korea. Lower prices were in evidence on secondary aluminum, containers, cast iron scrap, lead, manila rope, rubber, warehouse steel, scrap steel and tires.

Safety Trophy

Presentation of the 1952 Trailmobile Safety Trophy to American Trucking Associations, Inc., was a feature of the spring meeting of ATA. Leading fleet truck operators will compete for the trophy, to be awarded at the ATA convention in October.

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JUST MECHANIZE your materials handling operations by using **CLARK EQUIPMENT**. It's as simple as that.

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. . . there is at hand—and available to you—overwhelming evidence that **CLARK Serves You Right!**

The whys and wherefores are available to you in two new media—the “SERVES YOU RIGHT” edition of our **Material Handling News**, and our new movie on the use of fork-lift trucks and industrial towing tractors in Plant Maintenance Work.

Each of these items is free to you—the 15-minute sound movie, black-and-white, on a loan basis. They'll tell you and show you how **CLARK** enables you to get the **MOST** for your money. Just fill out the coupon, attach to your business letterhead and place in your “out-going” mail basket.

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AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 11, MICHIGAN

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Washington

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By Karl Rannells, *Washington News Bureau*

New Control Legislation

Outlook for new controls legislation was still hazy in mid-May as Congress acted slowly on extension of the Defense Production Act. One reason was that Congress was awaiting the Supreme Court ruling on legality of the steel industry seizure. Another was that Congress also wanted to get a better idea of what the Administration had in mind as to plans for decontrol of materials, prices and wages.

Administration forces were trying for a package deal which would include a two-year extension of control power. Agencies were promising to suspend controls "as rapidly as possible" and were united in opposition to mandatory provisions in extension legislation. They say they must have the standby power for "emergency." Most observers look for an extension of eight or nine months for the Act, pretty much as it now stands, thus passing the buck to the next Congress and President.

New Freight Car Goals

Government experts have set a new construction goal for production of freight cars. The new target is 438,500 new units, exclusive of military and export needs, by July 1, 1955. This means an average production rate of 10,000 a month this year, 11,000 a month for first half of 1953, and 11,875 a month for the ensuing 12 months. As one example back of this reasoning, raw steel output alone is expected to increase by 12 million tons (with corresponding boost in coal and ore to be handled). This in turn will multiply many times the tonnage of finished goods to be shipped, reshipped and otherwise distributed.

Small Business Distribution

More and more freight shipments will be coming from the factories of what is known as small business. This is resulting from combined pressure being exerted on the part of several government "small business" offices which are sometimes duplicative in effort but nevertheless effective. For example, during the first nine months of the current fiscal year, the Navy placed 22 per cent of its prime contracts, and a total of 396,000 purchase actions (68 per cent), with small business.

Oil Pipeline Construction

The lion's share of the available line pipe during the last half of 1952 will go to 23 major projects now underway, including 12 crude oil lines and 11 oil products lines. The reason is that with a little priority aid, all these can be completed this year, thus adding 6500 miles of oil line and 3500 miles of products line to the nation's pipeline transmission system.

Agricultural Distribution

The Agriculture Department is considering a big scale research program into problems of packaging, handling, and transportation of farm products. It is strongly backed by an advisory committee of not only producers but members of the transportation and shipping industries. Particular attention would be given to the interchangeability of truck vans (trailers), an idea now being tried by the Army. Also up for study would be terminal market handling costs, grain loading and unloading costs, and methods of preventing shrinkage of pre-packaged goods during transit.

Warehousing Baled Cotton

The government is also becoming one of the strongest boosters for bigger use of materials handling equipment for handling farm products. Continuing its research into such matters, the Agriculture Department has completed another study, this one on unloading, weighing, and storing baled cotton. In a detailed report, it will be shown among other things that not only is one man with a forklift equal to six men with hand trucks for unloading railroad cars but that when unloading motor trucks one-third the manpower can do the same work in one-half the time.

Steel Drums Decontrolled

All controls, except inventory ceilings, have been removed from steel shipping drums because control officials feel that enough steel will now be available to make all the drums needed. This means that steel drums can now be used for any and all uses; under the cancelled order, there were 44 listed products which could not be shipped in steel drums. It also means that 60-day inventories are now permitted (under CMP Reg. 1) instead of the 45-day limit allowed under the revoked order M-75.

Spending Vs. New Taxation

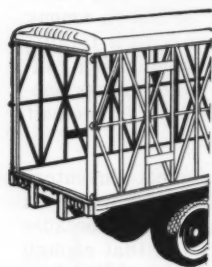
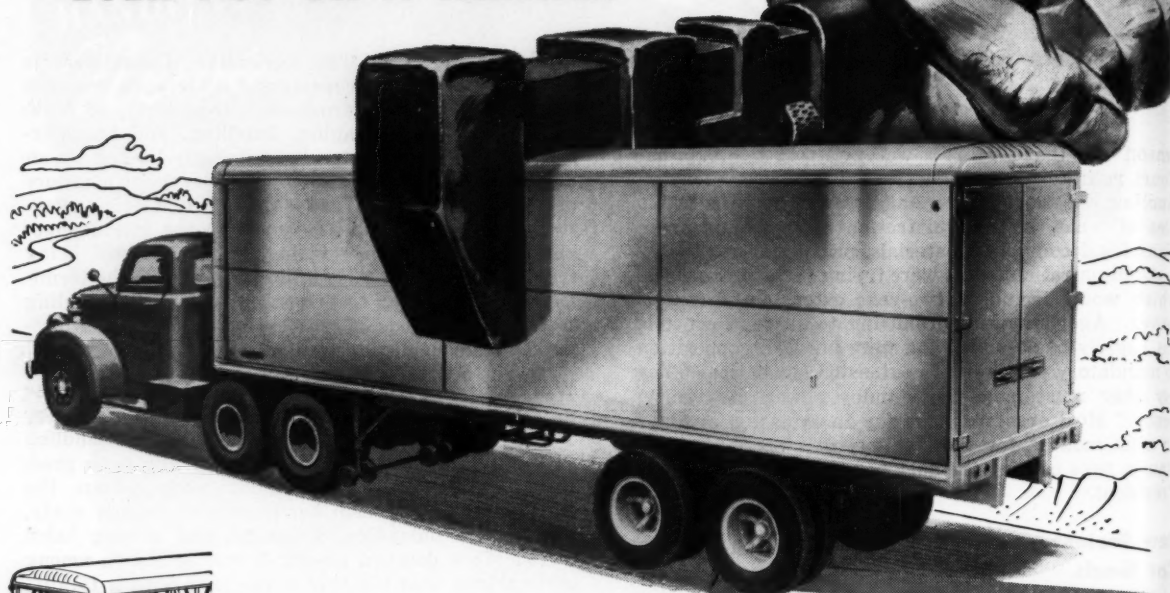
Look for a revival of efforts to put across the enactment of a "temporary" federal sales tax. Such a levy would apply not only to all retail items except food, housing and those items already subject to federal excises but also to many distributive and other services. This movement will be supported by several powerful groups now on record as in its favor.

No new tax laws are expected this year. Congress is generally opposed to increases in income taxes. And announced revisions downward of industrial expansion programs because of lack of capital is getting across the idea that "soak business" tax policies have reached the probable limit. Added to this is the fact that Con-

(Please Turn to Page 72)

Strongest Sides

EVER PUT ON A TRAILER!



"Bridge construction" of diamond side struts carries heaviest loads

If you are looking for a trailer that combines rugged strength, medium weight and low maintenance... don't miss the Trailmobile Model TA. The diamond side struts, working together with the load distributor under frame, distribute the heaviest loads evenly. Payload-stealing dead weight is saved, without sacrificing strength, by the use of corrosion-resistant aluminum for roof sheets, quarter panels, side sheets and landing gear. Meet your increased operating costs with increased payloads—with the new Trailmobile Model TA. Get in touch with your friendly local Trailmobile Branch for complete details *today*.

The Trend is to **TRAILMOBILE**

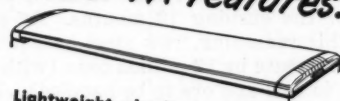
TRAILMOBILE INC.

Subsidiary of Pullman Incorporated

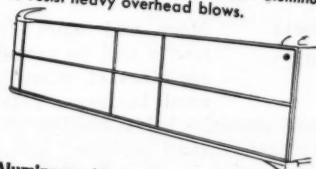
Cincinnati 9, Ohio • Berkeley 10, Calif.

Friendly Sales and Service from Coast to Coast

Check these Model TA Features!

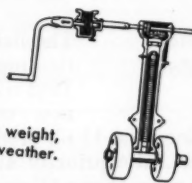


Lightweight aluminum roof sections, roof is made of sheet aluminum. Quarter panels are made of formed aluminum to resist heavy overhead blows.



Aluminum side panels, smooth, glossy, they never need painting, never rust, make important weight savings. Interiors treated to resist condensation.

2-speed aluminum landing gear booster transmission delivers twice the lifting power, aluminum case reduces weight, seals mechanism from weather.



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Model Layout Integrates Traffic and Materials Handling

Scaled set-up, including exact replicas of all machinery and equipment, eliminates costly problems of materials movement

By James Joseph
*Bureau Chief
Western Round-up*

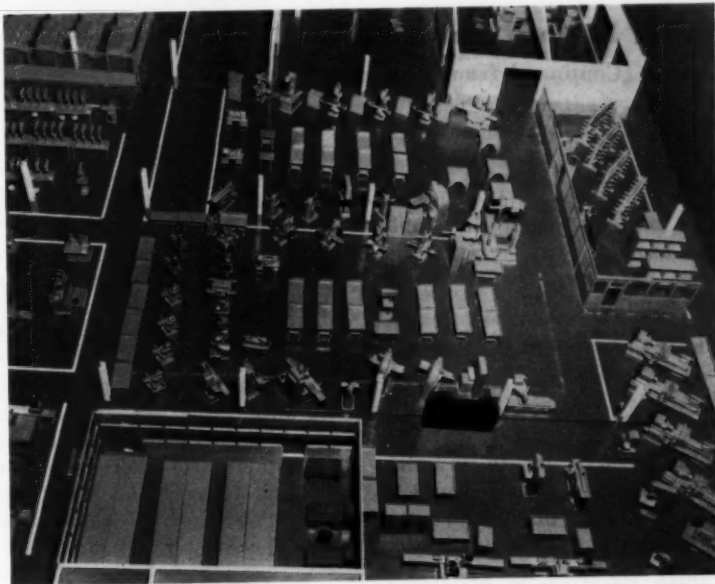
DURING the past three years traffic managers and shipping supervisors at Los Angeles' thriving McCulloch Motors Corp. have taken the costly guesswork out of traffic and materials movement.

By using a minutely detailed and scaled plant layout model containing over 2,000 three-dimensional models of machinery and materials handling equipment, plant heads have worked out their shipping problems *before* they became problems. In addition, they have been able to plan plant improvement far in advance.

While some other U. S. plants have turned to scale models of their production and shipping-receiving areas, probably very few use the model board on such a rigorous day-to-day schedule, nor with such resounding results as McCulloch.

Models Aid Integration

There are two reasons why McCulloch's shipping-receiving departments are integrated with



Materials movement puzzles are worked out on this detailed model board before they get a chance to become serious dollars and cents problems

materials handling operations elsewhere in the plant:

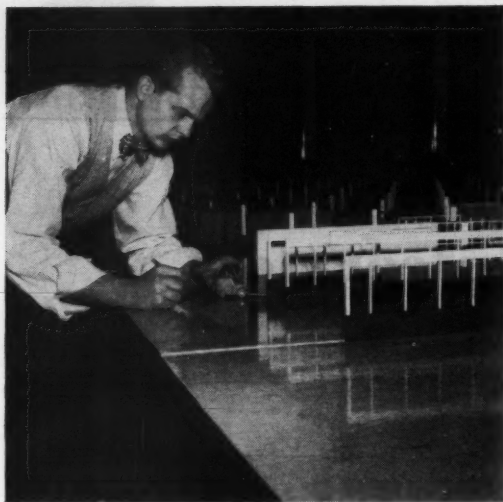
(1) The model board is exactly detailed and accurately scaled, 1/4-in. to a foot.

(2) All models are three-dimensional, detailed and—in some cases—workable.

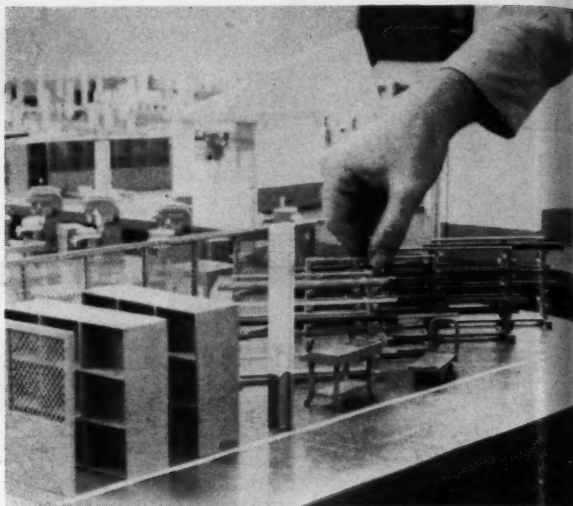
Take this recent problem, for example: A new production area was being installed. There was a question whether a fork-lift truck

could squeeze between two finishing machines and carry the products to shipping.

To work out this problem beforehand, shipping supervisor and traffic manager Don Appleton merely huddled over the model board with other plant officials. They moved an exact scale model of the towmotor between model beams and proved, then and there, that the fork-lift truck not only



Shipping supervisor finds it convenient to rearrange his department on the board in preparation for move



When a materials problem develops, in any department, there's always a model and board handy to find a solution

Model Layout Integrates . . .

(Continued from Preceding Page)

could get through the desired space and to shipping, but could turn around completely in the aisles—necessary for most efficient handling.

Ever-Changing Model Board

There is nothing static about McCulloch's model board; it is ever-changing. One reason is the plant's theory, put to practice, that shipping-receiving should be integrated with production. This means an almost constant shifting in the shipping department. And the shipping department, like all others in the plant, is represented by full, workable scale models on the model board.

For instance, when a new conveyor was scheduled for the shipping department—a conveyor that ran the entire length of the plant, and exited near the hydraulic loading ramps—the conveyor was first built to exact scale and adjusted to the available space. The scale model is installed in a dust-proof, air-filtered room, because dusting the 2,000 models used to be a three-day job. The company

employs a full-time model-maker. It has found that the board more than pays for itself and has almost entirely eliminated the need for departmental layout draftsmen.

Plant traffic heads no longer spend long hours measuring clearances, raw stock and rack room, working space and aisles in the plant. Instead, they plan directly from the board. There is no question, moreover, that a smooth flow of internal plant traffic means smoother, faster shipping.

Unloading Operations

Raw stock is unloaded via fork lifts from incoming trucks. The receiving docks are built inside the building, with automatic access doors. Both shipping and receiving docks, although located in different sections of the plant, are identical. They consist of a two-truck width, Dockmaster equipped dock, which can be raised or lowered hydraulically for semi-height or for lower-bed rigs. Adjacent is a one stall dock for pick-up trucks.

Incoming stock is unloaded via fork-lifts, palletized or put into

Raw stock items from receiving parts are binned in self-palletized units



metal, raw stock bins. Each pallet and bin has a stenciled tare weight so that counters and checkers of incoming shipments don't have to use "average" weight figures. From here, still palletized, the incoming stock moves either to "raw stock" storage, or to "stores."

Stores contain parts and materials used in McCulloch's motor-driven lumber saws and its other



Horseshoe conveyor saves shipping space, conveyor time. Here parts ready for shipment are checked. Conveyor is duplicated on the board

Hydraulic loading ramp is lowered to truck bed height for loading fork lift. The operation is also duplicated on the scale model board



Shipping carts handle one shipment each, are designed so they can rotate in aisle

Solve Problems on Board

"There are plenty of reasons why materials handling problems, particularly in shipping-receiving, practically solve themselves when worked out on the model board," says one traffic man. "But most important, the model board allows all production and shipping heads and foremen to meet together, in quiet, to work out common problems. For instance, the machining section executives wouldn't adopt a new materials handling truck without first making up a model and being sure it can negotiate the lines of materials flow to shipping and receiving."

Suggests Improvements

The model has led to redesign and widening of aisles; to standardization of materials handling equipment, such as fork-lifts, racks, flatbeds. It has also meant cost-cutting. When shipping needed some overhead cranes and hoists, it was first thought that extra beams would have to be erected. Instead, traffic managers met over the board, worked out a way to use existing beams already running over the shipping docks. This (1) saw quicker installation and did a faster reconversion job in shipping, and (2) saved a lot of money.

(Please Turn to Page 57)

products—material which is being constantly ordered as replacement or repair parts. As these items head from stores to the shipping department, they're checked and counted on a U-shaped conveyor, a space saving set-up. If you look at McCulloch's model board, you'll find this U-shaped conveyor made up into an exact scale model. A conveyor, both in actual operation

and in model, runs from stores directly to shipping, and on the way passes through packaging.

Interestingly enough, the traffic manager has his office in shipping, and not only dispatches in-town pickup trucks, but dispatches various in-plant fork-lifts to carry items to shipping. Each fork-lift is made up into a model. They help rearrange the department.



GE Saves \$2

A fork truck equipped with a revolving



After operator completes "scrap patrol," picking up full tote boxes, he carries containers to outside pit where they are emptied quickly by revolving head device on standard fork carriage

THE sprawling Erie, Pa., works of the General Electric Co. saves \$20,000 yearly on its scrap handling by using a fork truck equipped with a revolving head attachment for hauling and dumping the scrap.

Although it is not a production handling job, GE handling men figure scrap handling rates as much attention as any of the other handling work. In fact, scrap handling gets full-time attention: one fork truck operator on each shift has

the job of hauling steel scrap and shop rubbish out of the work area to keep the machine shop neat, and businesslike.

The revolving head attachment on the fork truck used for scrap handling makes the job of dumping steel turnings and shop trash much easier. The truck operator simply drives his machine alongside the dump area, pulls the lever that rotates the revolving head attachment—and empties a full box of scrap without leaving his truck.

How Scrap Is Handled

From a lathe to the rail car, here is the method by which the scrap is handled.

A helper-laborer in the machine shop has the assignment of touring the machining area, shoveling lathe turnings and other machining scrap into tote boxes placed on the aisle in front of each machine.

As the fork truck operator makes his rounds, he picks up the filled tote boxes and takes them to a

es \$20,000 on Scrap Handling

with a revolving head attachment helps a driver helper do the work of seven laborers



Scrap is taken out of pit by an electromagnet suspended from bridge crane, and dumped in waiting rail car for shipment to scrap broker

scrap pit outside the scrap shop. General Electric built this pit with drains in the bottom, so that excess lubricating oil could drain off the scrap into a tank beneath the pit. When the tank fills up, the oil is pumped out and used again.

Reasons for Reclaiming

This reclaiming of the machine oil has a two-fold purpose: (1) GE can save money on the purchase of new oil; and (2) clean scrap brings a higher price from scrap brokers

than hard to process, oily scrap.

The scrap pit is emptied twice each week and the scrap is dumped into a gondola car for shipment to the scrap buyer. For this car-loading job, General Electric uses an electromagnet suspended from a bridge crane. An average of nine gondola cars is shipped out each month to the scrap buyer.

When the scrap truck driver isn't busy with steel scraps, he tours the machine shop looking for full shop-trash cans. These cans

for expediting scrap movement are placed at regular intervals along the aisles of the shop. As the truck driver spots a full can, he empties it into a tote box and hauls the load to a trash dump near the shop.

Old Method—Seven Men

Before GE started using the fork truck and revolving head attachment for handling steel and other scrap, seven full-time laborers were needed—four men on the first shift and three on the second—to keep the machine shop in order. These men carted scrap in four-wheel hand trucks. They used pitchforks at the scrap pit out in the yard to unload the trucks.

By mechanizing the job, the shop was able to cut its scrap crew to the one helper-laborer and the single fork truck operator. Other men on the old seven-man crew were assigned to more productive shop jobs.

Save \$10,000 on Labor

Considering the rate paid for this type of labor at the Erie plant, General Electric estimates that the company saved nearly \$10,000 each year on labor costs for the scrap handling job.

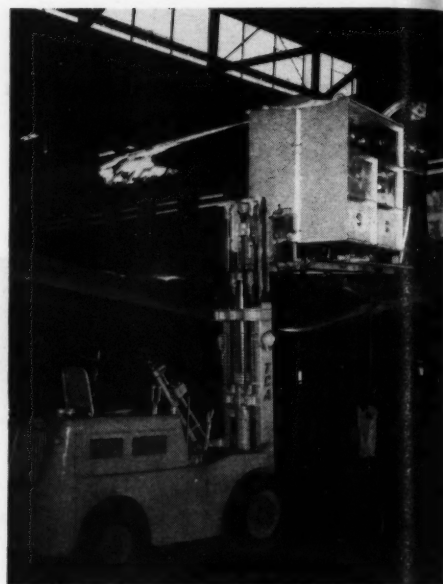
The plant also pockets a neat yearly bonus of more than \$10,000 on the sale price of its scrap steel because the scrap can be delivered to the broker free of any other contaminating metals. Without the efficient fork truck system, such strictly enforced separation of the scrap metals would not have been possible. •



She's a two-faced hostess, but a compartmentalized pallet has added speed and efficiency to loading and unloading commissary items at a Canadian airline

By Michael M. Gutwillig

LAZY SUSAN, Busy as a Bee, Works for TCA's Commissary



WHEN we decided on an improvement to our method of loading and unloading commissary equipment," says J. L. "Joe" Sky, supervisor of ramp services, Trans-Canada Airlines, Montreal, "right there we knew we weren't going to settle for any half measures."

At most major airports, the problem of moving galley materials between the flight kitchen, wash-up stand and the aircraft itself is a thorny one. Restricting factor when contemplating a speed-up is the discrepancies in shape between kitchen materials which defy fork-lift unit-load handling.

TCA's solution—the brainchild of Joe Sky and Frank Bogart, ground equipment technician—is a compartmentalized, revolving pallet of almost Rube Goldbergian proportions which the airport attendants have affectionately termed "Lazy Susan." In its favor: The thing works; it's knocked seven steps off an awkward 10-step handling procedure.

How She Stacks Up

Here are Lazy Susan's major features:

1. A 58 x 47 $\frac{3}{4}$ in. wooden platform, with steel channels to accommodate the forks of the lift truck.

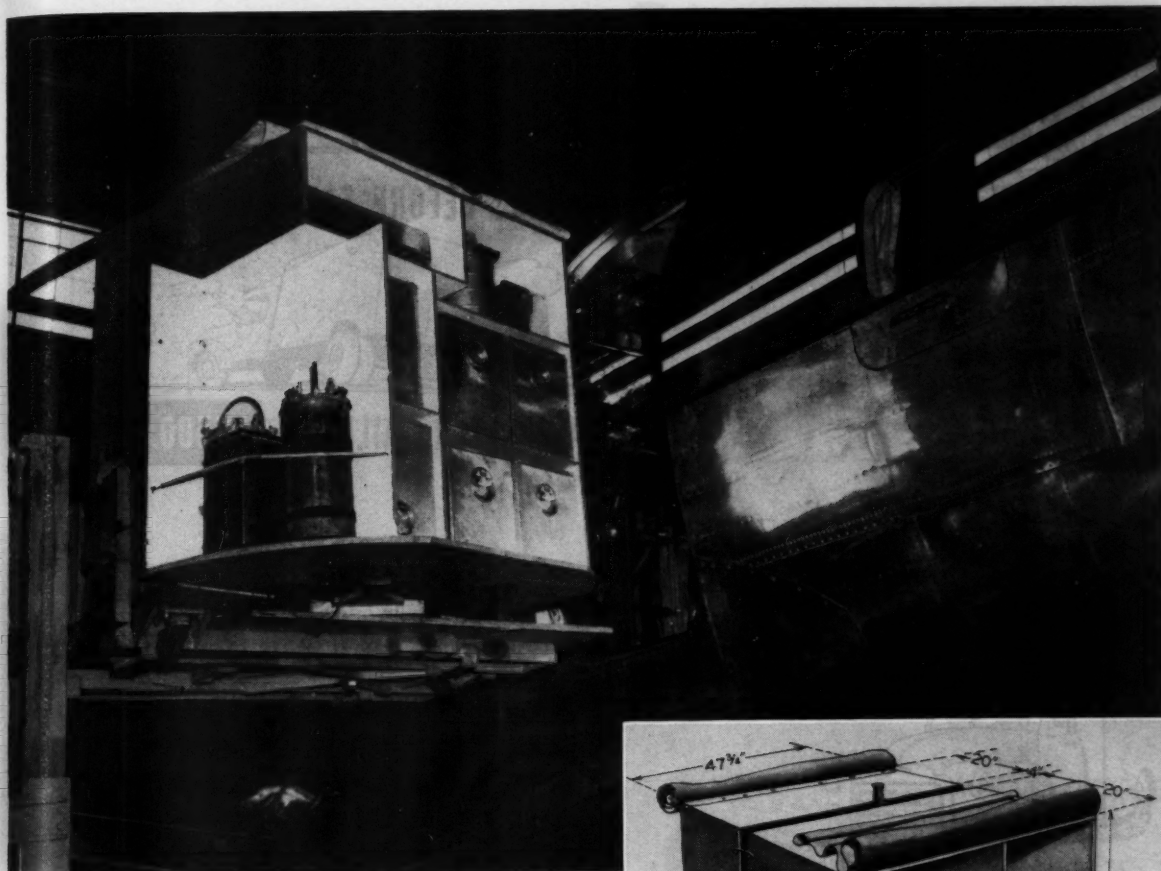
2. Two compartmentalized, back-to-back, 47 $\frac{3}{4}$ x 20 x 50 $\frac{3}{4}$ in. removable boxes that revolve on casters about a pole in the center of the platform. Snugly fitting into these compartments go the commissary's refrigerated food units, tray carriers, drinking water tanks, thermos bottles, bar supplies, kitchen utensils, etc.

3. A weather-proof curtain on each side, covering the open shelving to protect food against the elements and propwash.

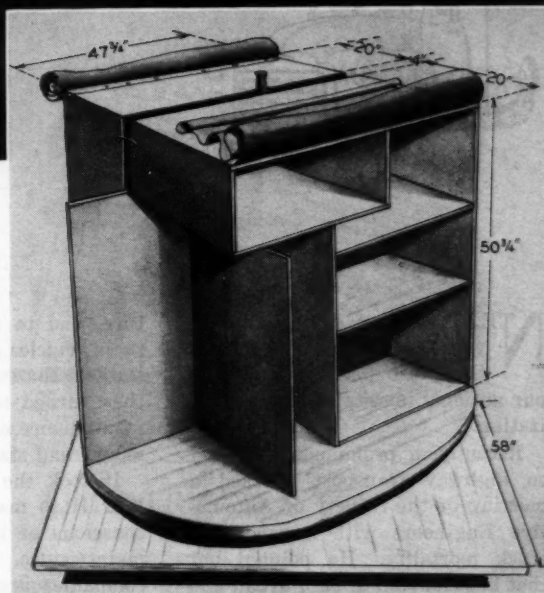
As a result, the aircraft's multi-shaped commissary needs can be handled in a single unit from the plane to the wash-up area and from the kitchen back to the air-

craft. and u in th minut movab caster row d the fi

The tailor- ley r in pos the fo are u replac sweep of the



Lazy Susan has two compartmentalized, back to back, removable boxes that revolve on casters (See above) about a pole in the center of the platform. Fitted into these compartments (Right) are refrigerated food units, tray carriers, water tanks, thermos bottles, kitchen utensils



craft. It's now possible to load and unload at the airport caterers in the record time of three minutes. Because the boxes are removable, they ride on their own casters through the relatively narrow door at the caterers and along the filling aisles.

Pallet-Fork Truck Plan

The compartments have been tailored to TCA's North Star galley requirements. When placed in position against the aircraft by the fork-lift, fresh food containers are unloaded from the Susan and replaced with empties in a single sweep. When the box on one side of the pallet has been processed,

a flick of the wrist turns the pallet about and the operation is continued on the other side. Because there is reduced handling, there is less chance to spill meals. Or, as Joe Sky puts it, "The peas aren't running into the gravy."

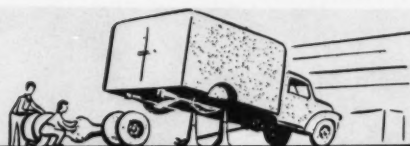
Previously, the flow of work was as follows: Containers were re-

moved from aircraft galley singly—cross-transfer of filled and empty containers blocked work area—and were placed in a cart handled by fork-lift; lowered to ground and loaded onto waiting truck; transported to wash-up area; handled individually in
(Please Turn to Page 57)

1 **\$500⁰⁰**



2



OVERHAUL BEFORE FAILURE = \$90.00



REPAIR AFTER FAILURE = \$500.00

NEGLECT Boosts T

Planned preventive maintenance will raise truck life expectancy to one million miles, according to GMC transportation survey

NEXT to farm equipment, private truck fleets are probably the most neglected part of our national investment in mechanization.

Recently, a prominent authority on highway transport shocked a meeting of the Society of Automotive Engineers with a report on truck mortality. He pointed out that bus companies, both urban and over-the-road, commonly experienced an average vehicle life in excess of one million miles. This was contrasted with truck life tables which average in the 200,000—300,000-mile range.

Of course, there are some truck operators who are able to match the best operators' vehicle performance. However, this figure was talking about averages.

He drew the conclusion that, over the years, less companies driven by an inflexible rate struc-

ture, had to get the most out of their vehicles or go out of business. Rather than go out of business, they turned to planned preventive maintenance of their vehicles, save money and stay in business.

It took the scarcities of World War II to make the truck owners conscious of the need for planned maintenance. But, today, the best companies are far ahead of truck owners in the care of their vehicles: Except, possibly, the largest truck freight companies.

PM vs. Failure Maintenance

Because of the technical nature of maintenance, management finds it difficult to speak the language of a mechanic. While it is possible to get outside assistance in making maintenance analysis, a start in the right direction would be to determine if the vehicles are given preventive maintenance or do they

get to the shop only when repairs are needed—failure maintenance.

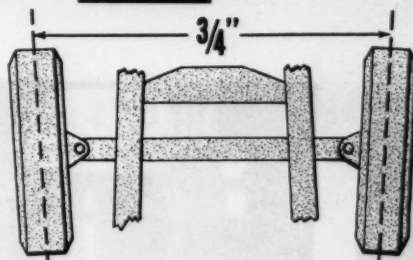
There is a big difference between the two systems. No technical terms are required to describe this difference. It is longer vehicle life, attractive vehicle appearance, minimum mechanical failures on the road—none of which generally is very costly—each leading to low operating cost.

Failure maintenance simply means that the vehicles are repaired only when actual parts are out of mechanical order and the vehicle is not functioning efficiently or, perhaps, not at all.

Preventive maintenance does not, necessarily, start in the shop. The operator of a new vehicle almost invariably examines all operating units carefully. In other words, he will check brakes, horn, lights, and other parts to see if

(Please Turn to Page 53)

**5 3/4" OUT OF ADJUSTMENT
EQUALS \$200⁰⁰ OUT OF POCKET**



By W. L. Vandewater
Merchandising Manager
GMC Truck & Coach Division,
Pontiac, Mich.

PREVENTIVE MAINTENANCE SCHEDULE
GMC TRUCK & COACH DIVISION
YEAR 1951
MONTH April

GMC PREVENTIVE MAINTENANCE WORK SHEET
Diesel Engine Equipped Trucks
1951

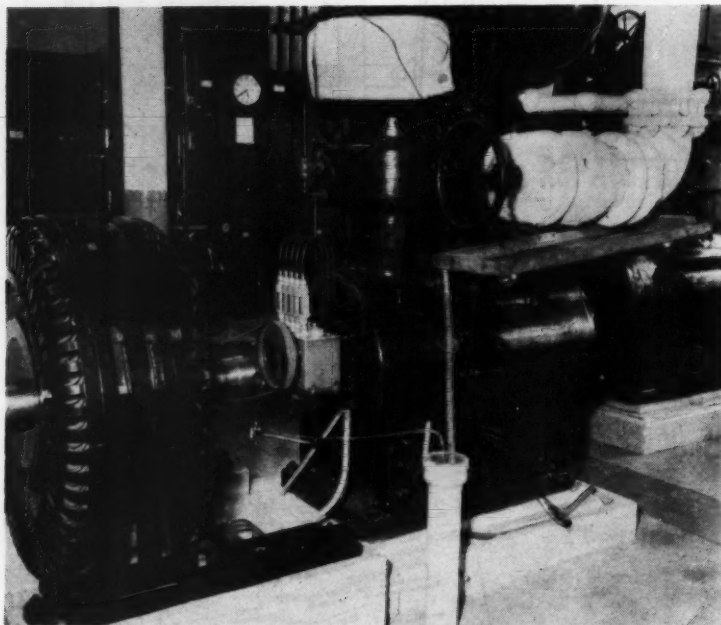
GMC PREVENTIVE MAINTENANCE WORK SHEET
Diesel Engine Equipped Trucks
1951

SUGGESTED CHARTING METHOD FOR TRUCK OPERATORS
GMC TRUCK & COACH DIVISION
FLEET PREVENTIVE

4

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Warehouse Efficiency Checklist . . . Part 3



Preventive maintenance is an economic necessity of modern refrigerated warehousing. It pays high dividends on costly, hard to replace equipment

If shipping and receiving facilities are inadequate, it is often more costly to put up with the situation than extend the platform and cut new doors



8 Points

CHANGE is the one thing that has been constant in the refrigerated warehouse business for the last few years. "Idea men" in the foods industry, with their new and revolutionary food processes, have caused a substantial amount of space juggling, conversion and expansion in refrigerated warehouses. These men seem to show little regard for the headaches their brainstorm create, so far as the management of warehouses is concerned.

Indeed, these revolutionary changes in food processing and storage represent progress, healthy progress, but they adversely affect the profit picture of those warehouses that must re-style their buildings and equipment to fit the new trend. In theory, these building and equipment adaptations will pay for themselves. But the way changes are being introduced these days, management must be wondering if today's renovation might not be ready for the scrap heap a few years hence. The parade is a fast-moving one. The informed warehouseman can keep pace.

Prepare for Changes

One thing is certain, the refrigerated warehouse that does not keep up with the parade of food processing and storage refinements will not be around very long, unless its operational losses are absorbed by another source of income.

Another thing is certain, constant plant renovation means high cost of operation. Add to the renovation factor today's labor rates, taxes and other operational expenses, and the total is staggering.

Constant physical and technical improvements demanded by the frozen food industry take a large slice of the refrigerated warehousing dollar. Peak efficiency is the only answer . . . By Lloyd Moore

for Refrigerated Warehouses

Efficiency Assures Profits

How do you keep the profit picture looking rosy in these times? Well, it seems that there are two answers to this question:

1. Boost volume; stay filled.
2. Operate more efficiently.

The first of these is for the sales end of the business. It is vitally important. It demands far more than routine lip service.

The second part is what this article is all about . . . a few slants on how to improve efficiency in refrigerated warehouses. Here is a checklist that should get you into a challenging mood. You probably will think of more and better check list questions.

How Is The Equipment

Is the refrigeration plan and equipment still adequate? Sure, it was when it was installed, but hasn't the character and volume of items stocked changed materially since your refrigeration system was installed?

1. Are you straining refrigeration equipment as a result of overstocking some areas? Are temperatures and humidity what they should be in those areas? Is the long-range efficiency of the equipment being impaired by the temporary overwork load?

2. Is your current layout of

ABOVE: Ventilation space should be left when stacking at outside walls since temperature loss is up to 6 deg

BELOW: A good stock location system, simple in structure yet covering every detail, can save many valuable hours



3 Points for Refrigerated Warehouses . . .

(Continued from Preceding Page)



Crushed cartons are hard to handle, not conducive to sanitary conditions, and cause spoilage. Simple precautions will often eliminate this problem

stocking areas compatible with the air circulation plan designed for your building? Are any ducts blocked or partially blocked? Have any planned aisles been closed? Is the interval between containers and storage bays sufficient to permit free air circulation?

3. Are your temperature gauges placed where they tell you the temperature in the center of the stack? (as distinguished from along an aisle where cold air circulates more freely).

4. Are the controls adequate? Do you have the facilities for making frequent checks of humidity, area temperatures, cooling loop suction and blower temperatures?

5. Are pipes being defrosted as frequently as they should be?

6. Are area temperatures near the critical high point? (If so, you should give serious thought today to replacing or augmenting your refrigeration equipment. Replacing

old, out-moded equipment usually represents a long range economy.)

7. Now that copper tubing, steel pipe, and motor parts are fairly easy to obtain, shouldn't you make the repairs you have been postponing?

Care of Equipment

Preventive maintenance on expensive, hard-to-replace equipment will pay for itself ten fold.

1. Are motors cleaned frequently and regularly before dust in the motors gets a chance to unite with oil, grease or water?

2. Is the alignment of motors checked periodically?

3. Does the whole electrical net receive the attention it should? (Electrical lines and boxes collect moisture and deteriorate despite the fine insulation that surrounds them.)

4. You have a big investment in equipment. Is the maintenance man

capable of living up to the responsibility?

5. Are valves checked and repaired periodically?

6. Are tubes and pipes repaired before their failure causes serious damage to equipment or to stored foods?

7. Rust can take a heavy toll in both refrigeration and materials handling equipment; have you taken proper precautions against rust?

Check Storage Methods

Safe, space-squeezing methods are a must in today's high cost operations. However somewhere along the line you reach a point where you gain storage-wise but lose refrigeration effectiveness.

1. Would pallet racks (pallets rest on shelves so one pallet does not rest on another) enable you to make better use of vertical space?

2. Would the erection of a mezzanine platform in any of the high ceiling areas solve your space problems? (With palletized commodities, the vertical movement to and from the mezzanine presents no serious problem.)

3. If you were to replace your trucks and dollies with narrower, more maneuverable equipment, could the width of aisles be reduced appreciably? (A reduction of one ft. in the width of every aisle in the building amounts to a sizable increase in available storage capacity.)

4. Could any items be tiered higher if you were to use pallets or skids with frames built above them, so that one could rest on the underneath pallet or skid without crushing the items?

5. Are your stocking methods safe so far as possible injury to personnel is concerned?

Getting It In and Out

Can we "get it in and get it out" faster? This factor probably has the greatest bearing on operating costs, and in the typical warehouse it offers the most room for improvement.

1. Is the elevator a bottleneck? Would reworking the lift capacity or the speed of the elevator be justified?

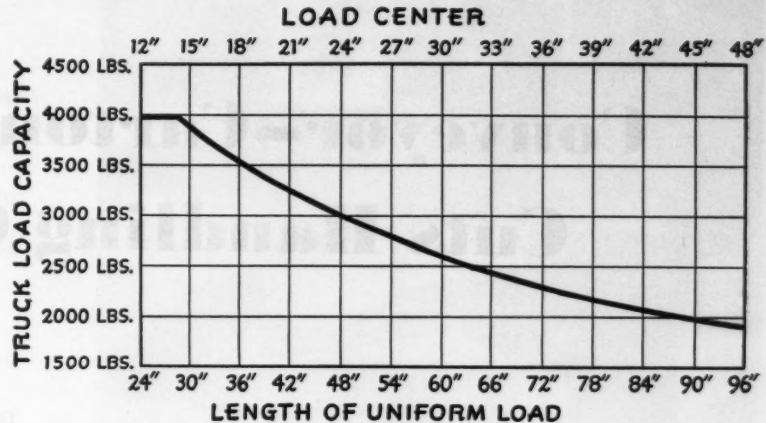
2. Could conveyors be used in
(Please Turn to Page 59)

Equipment Selection

Study all truck features in relation to job requirements and desired performance scale before purchasing high-lift

By D. O. Haynes

Consulting Industrial Engineer



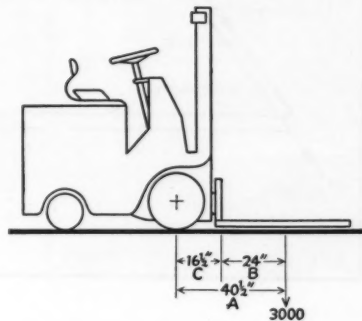
What to Look for in a High-Lift Fork Truck

INDUSTRIAL power trucks have reached a somewhat settled stage of development. However, the manufacturers are not sitting back smugly, resting on their laurels.

Each year sees new advances in design and engineering. The prospective purchaser can be sure of having a machine which is basically sound, one which will give him faithful service, especially if he deals with one of the established suppliers and gives the equipment the attention it deserves from the maintenance angle.

Design Differences

Comparing different high-lift fork trucks, there are, of course, variations in certain elements from which to choose, but these differences are largely technical. For example, most of the machines presently offered are driven by the front wheels under the masts. There is, however, a difference in the arrangement of the rear, the steering wheels. Those who place them out toward the edge of the frame claim that they secure



greater stability by so doing, but those who bring them in near the center assert that such a setup permits greater mobility by providing a shorter turning radius.

Capacity is one of the most important factors to consider in choosing a truck for elevating loads. It is a question which needs clarification because there has been considerable lack of uniformity in the way manufacturers have designated capacities. It requires too much mental gymnastics on the part of the prospect to compare the relative capacity of two trucks when the load centers are not the same.

Even the method of stating the capacity as so many inch-pounds is confusing and not helpful to the prospect, unless he is familiar with the mathematics of the problem. This figure—inch-pounds—is found by multiplying the rated load in pounds by the distance in inches from the axis of the front wheel to the center of the load. When, however, the capacity is expressed as so many pounds at a certain load center, the load center is measured in inches from the *heel of the forks* to the center of gravity of the load; which, in the case of a uniform load means its physical center.

Sketch Shows Elements

The accompanying sketch shows the various elements; it being assumed that the fork is 48 in. long and the load center is 24 in. from the heels of the forks. In this particular instance, the truck can be rated as 121,500 inch-pounds, or as having a rated capacity of 3000 pounds at 24-inch load center.

The chart shows how the capacity varies with the shifting of the

(Please Turn to Page 40)

Conveyor-Carton Sealer

Cuts Handling Costs

By E. W. Zabriskie

*Division Industrial Engineer
National Paper Products Co.
Carthage, New York
Division of Crown Zellerbach*

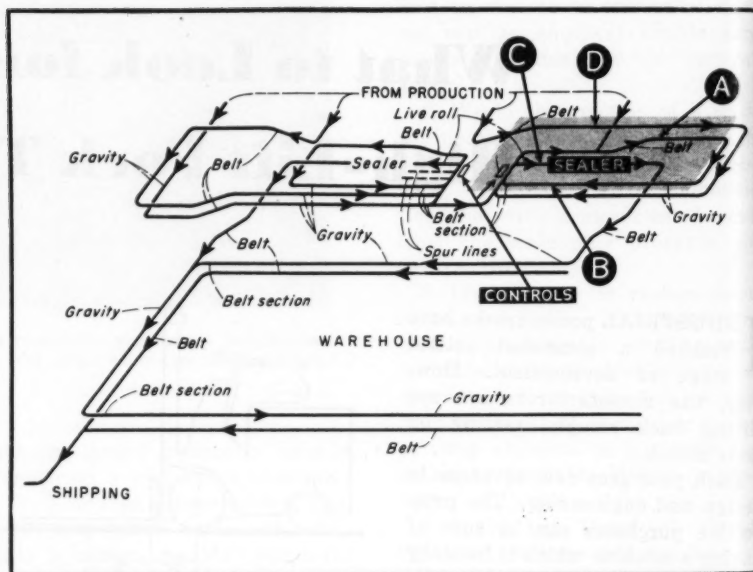
THE National Paper Products Co., Carthage, N. Y., has cut its gross handling costs by integrating a new conveyor system with two automatic carton sealers. The twin unit is believed to be the nation's first remote controlled sealer installation.

The new system handles 40 per cent more cartons than the previous system. In addition, work-hours required for sealing have been decreased by more than 55 per cent and warehouse work-hours have been cut by 35 per cent. (The company manufactures facial tissues, napkins, paper towels and similar products.)

With the new method, two operators per shift handle the plant's entire production through the sealing operation. Up to 6,300 cartons per 17-hr day are produced and 19 carton sizes are handled.

Each operator controls the flow of cartons to his sealer and by remote control adjusts the sealer for different size cartons. When production is low, all cartons can be diverted to one sealer, or one operator can work both machines. The latter is made possible by the positioning of the sealers and sealer controls.

The sealing unit has two controls, five ft apart, and twin sealers, 52 ft apart; they are shown in this flow diagram. Shaded area represents portion of unit in photo at right; letters match in photo and chart



How It Works

Before deciding on the final layout, approximately a dozen flow diagrams were developed, changed and improved. Engineers of both the National Paper Products Co. and the Lamson Corp., manufacturer of the conveyor, worked out the final arrangements. The new conveyor setup was installed by Lamson in two months' time. In the final layout (Fig. 1) two sealers are arranged back to back on the same center line, 52 ft apart. Each sealer is encircled by a "recirculating" conveyor which is fed by two production lines. Car-

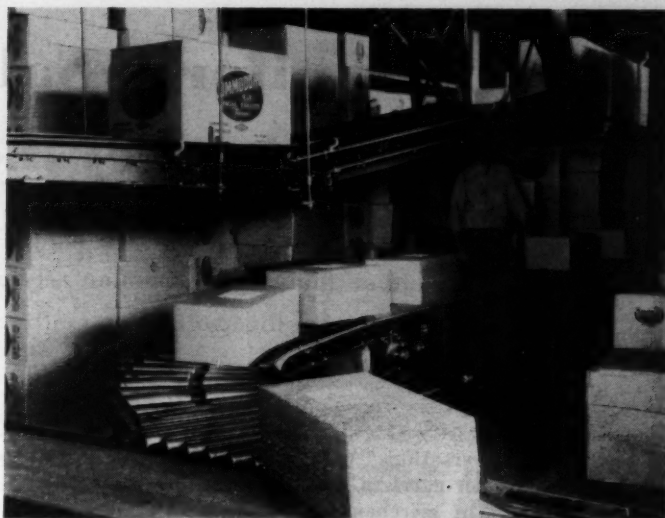
tons flow from the recirculating line to the sealer on a live-roll conveyor.

The operator, by remote control, admits cartons to the recirculating line in groups. Generally, he works from alternate production lines and admits cartons until he has an assorted group aggregating five different carton sizes on the recirculating line.

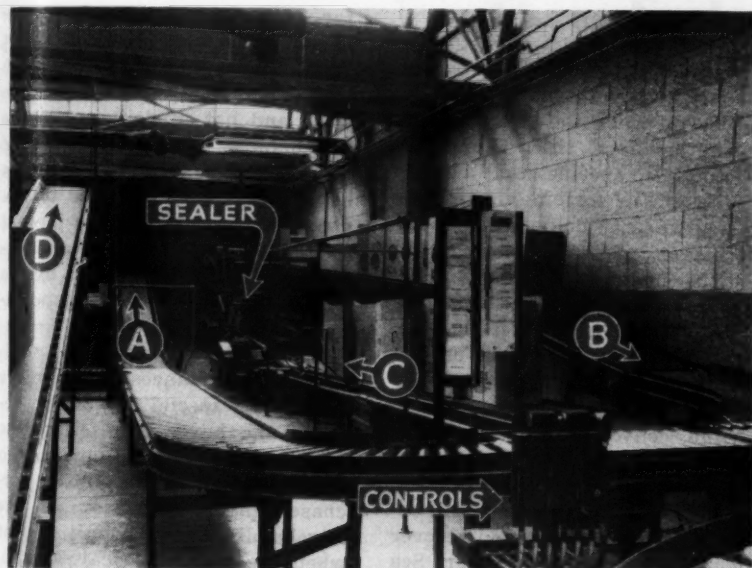
At any one time a sealer is set to handle one carton size. The operator manually diverts all cartons of this size to the sealer until none remains on the recirculating line. Other size cartons recirculate

Remote control sealing system handles 40 per cent more cartons; twin unit reduces man hours in complete operation by 55 per cent

BELOW: Compare this photo with diagram at left; (D) recirculating conveyor circles machine; cartons are diverted to SEALER by remote control on belt (C) by man at CONTROLS; (A) and (B) are the feed belts



Upper conveyor carries cartons to a storage area; lower belt-conveyor takes them from storage to shipping platform. The control panel operator can adjust the sealer for different sizes and routing. Cartons come to recirculating line from production



into the gravity recirculating lines. This speed differential spaces the cartons as they are fed to the sealer.

The Control System

Perhaps the most important single component of the entire sealer system is the control system. Control boxes for each sealer and accompanying conveyors are located but five ft apart. This permits one man to operate both sealers when desirable. Each control box adjusts its sealer for different size cartons although the sealer is some 23 ft away. This is believed to be the first remote controlled sealer installation.

Operators know cartons by content and local nomenclature and buttons changing the sealer from one carton size to another are so marked. Thus, when the operator wants to seal carton "X" he merely pushes button "X" and the sealer automatically adjusts for the new carton size.

The control panel also has buttons to stop and start the sealer, the live-roll conveyor to the sealer, and belt conveyors controlling flow of cartons to the recirculating

(Please Turn to Page 69)

around the sealer. Then, by remote control, he resets the sealer and diverts to it cartons of another size. After the entire recirculating-line lot is sealed, the operator admits additional cartons from one of the two production lines.

Handling Small Quantities

One sealer is equipped with two "spur" conveyors for storage of cartons produced in such small quantities that it is not practical to reset the sealer as the cartons occur on the recirculating line. These cartons are collected until the end of each hour and then run

through the sealer. The spur lines are gravity-conveyor types which decline in one direction when storing cartons and are tilted to the other direction by compressed air cylinders when being emptied.

The entire sealer system is roller gravity with the exception of the live-roll lines connecting the recirculating conveyor with the sealer and the inclined belts used to elevate cartons to sufficient height for them to flow downward. The live-roll conveyors travel at 100 ft per min in comparison to 45 ft per min speed for the conveyor belts feeding cases

Uniform Sales Act

Cited As Key Legislation

Author finds many common carriers, distributors only vaguely familiar with law. Outlines important sections

RECENT conversations with many common carriers and distributors of merchandise have convinced the author that a surprising number of these men have only a vague understanding of the Uniform Sales Act.

Several of the distributors have asked me to review, in greater detail, the law on this subject and to name the states which have adopted this uniform law.

All of the states have adopted the Act at this date, but New Jersey, Connecticut and Arizona were the first to do so, enacting the Uniform Sales Act in 1907. The last states to adopt the Act were Arkansas, in 1941, and Colorado, in 1942.

Section 57 of the Act is particularly important to shippers and distributors of merchandise. This section provides that when the purchaser is insolvent, the unpaid seller who has already parted with possession of the merchandise may stop it in transit, and have the carrier return the goods to the shipper.

In other words, section 57 does not specifically provide that the seller may repossess the merchandise while "in transit" if the title has already passed to the purchaser. This section 57 merely specifies the right of "stoppage in transit" when the seller discovers that the purchaser is insolvent and also if the seller has merely "parted with possession" of the goods.

Hence, if you file a suit based on Section 57 and stop in transit goods on which the title already has passed, you can expect to lose the suit.

By **Leo T. Parker**
*Legal Consultant
Distribution Age*

Section 56 of the Act gives the seller the right to stop in transit goods to which the purchaser already had legal title. This latter section also specifies that a seller automatically forfeits his right to a lien when he delivers the goods to carrier without reserving title in the merchandise, or without having a written or verbal agreement with the purchaser that the seller still retains a lien on the goods to secure payment of the purchase price.

And, conversely, a waiver of a lien signed by a seller or supplier of merchandise always is valid, but the seller or supplier still retains the right to sue and recover payment from the contractor. See *Ligon v. Milholland*, 224 S. W. (2d) 825.

When Title Passes

Very frequently the outcome of a legal controversy involving a lien on shipped merchandise, to secure payment of the purchase price, depends upon the exact time or date the title to the goods passed to the purchaser.

A reader asked: "If a seller or distributor delivers merchandise to a carrier for shipment f.o.b. the buyer's town, does title to the merchandise pass to the buyer?"

The higher courts hold that delivery of goods by a seller to a common carrier for shipment to the buyer, f.o.b. the purchaser's

location, passes legal title to the merchandise to the purchaser unless the contract or bill of lading indicates a contrary intention.

In *Lansdowne*, 64 Atl. (2d) 727, for example, the term f.o.b. appeared immediately after contract price. Hence, the court held the term f.o.b. had reference to the price and not to delivery of the merchandise. This court explained that by agreement between the buyer and seller, the title to the merchandise may pass the instant the sale contract is made and before the goods are delivered by the seller to a carrier for transportation to the purchaser.

On the other hand, under ordinary circumstances, as where there is no special agreement between the buyer and seller, the title to the goods may not pass to the purchaser even after the purchaser takes possession of the merchandise. The conditions of when the title passes always depend upon the intentions of the parties.

Responsibility of Parties

When a shipment is made f.o.b. the seller's town, the title passes to the purchaser when the goods are accepted by the carrier and the buyer not only assumes full responsibility for all damage, loss, delays and theft of the merchandise caused by the carrier, but he becomes the immediate owner of the goods and subject to laws and restrictions applicable to carriers and the owner of transported merchandise.

For illustration, a common carrier is liable for all loss or injury to the owner of shipped goods not

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due to an act of God; the public enemy, in time of war; the inherent nature or peculiar qualities of the goods; or the act or fault of the shipper. Also, it is well settled law that under all circumstances a common carrier is liable to the owner of shipped goods for damages to goods caused by negligence of its servants or employees. Therefore, these rules of law are applicable to a purchaser of goods if the contract or bill of lading specifies that the goods are shipped f.o.b. the seller's location because, then, the purchaser is the owner of the goods during transportation unless a contrary and special agreement exists between the buyer and seller.

Common Carrier Liability

Hence, where a common carrier attempts to avoid liability to the owner of shipped goods for loss or injury to the merchandise it is bound to prove its case, or contention, otherwise it will be held liable.

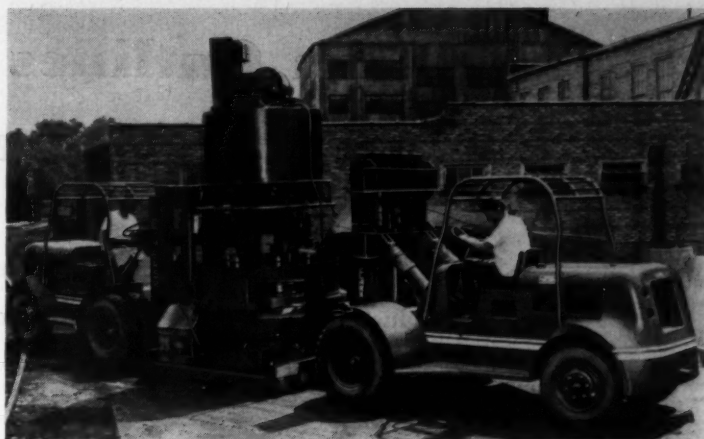
For instance, in *Noel Brothers v. P. Railway Company*, 133 So. 830, it was shown that goods were destroyed during transportation. The carrier attempted to avoid liability to the owner of the goods on the contention that its negligence was not in any degree the cause of the loss. Nevertheless, the court held the carrier liable practically as an insurer and held the owner of the goods entitled to a favorable verdict, saying:

"The carrier must prove the precise cause of the loss. It will not suffice to prove merely due diligence, but the carrier must prove, moreover, that the accident was occasioned by a fortuitous event, or by irresistible force, or by a defect of the thing itself, or by a fault of the shipper. . . ."

Private Carrier Liability

The higher courts agree that a private carrier is liable for loss, damage, destruction, or theft of shipped products only where the testimony shows that the private carrier was negligent, or failed to exercise "ordinary" care to safeguard the shipment. In other words, while a common carrier is liable practically as an insurer of

(Please Turn to Page 78)



The ancient two-on-one principle is put to work as a pair of the 15,000 lb capacity fork lift trucks work together on a 28,000 lb Bullard Mult-Au-Matic

Three Fork Trucks Perform Big League Operation

With a minimum of lift equipment this herculean task was accomplished to satisfaction in 27 working days

UNLOADING and moving 800 pieces of heavy machinery from 185 railway cars and 40 highway trucks is no small scale operation in anybody's league—but to complete the job with three fork trucks and one towing tractor in just 27 working days must be considered a strictly big league performance.

This unusual task was completed recently at the Dowagiac, Mich., plant of the Detroit Engine Division of Kaiser-Frazer Corp. Prior to activating for a defense project, the plant was faced with the job of overhauling and servicing machinery which had been warehoused since demobilization.

The operation involved the unloading of equipment, moving it to the service area, and spotting the units at their final destination or reloading them for rail or highway shipment to other K-F plants. The machinery ranged in size from a single spindle drill press to the largest Bullard Mult-Au-Matics.

Representatives of the trucking company contracted for the job, took their problem to materials handling engineers of Clark Equipment Co. Since most of the equipment was heavy and bulky, some items weighing more than 25,000 lbs, Clark engineers suggested use of their Yardlift fork lift trucks, equipped to handle up to 15,000 lbs.

In cases where the machinery went over 15,000 lbs, two lift trucks teamed on one piece of equipment. Another on-the-spot problem was solved by use of the Yardlift. Much of the equipment was scheduled for installation on the second floor. Operating from an open well in the center of the building, a fork truck was used as an elevator, lifting a 5½ ton turret lathe and other heavy machinery to a platform on the upper level.

The end result proved, again, that materials handling equipment properly applied can be utilized for any "moving job"—assuring speed, economy and safety. •

Knudson Outlines Problems Facing Warehouse Industry

DTA administrator offers four-point expansion proposal as industry incentive to meet need for increased space

DEFENSE Transport Administrator James K. Knudson last month outlined problems confronting the warehousing industry and the government in their mutual attempts to establish an adequate warehousing program as an integral part of the national defense effort.

Speaking before the 61st annual convention of A.W.A., Mr. Knudson also offered possible solutions to the major problems. He urged the formation of Defense Warehouse Associations, advised utilization of public warehouse space by all government agencies through a central control system, and presented a 4-point program designed to help the industry meet growing warehouse needs brought about by the defense project.

Continuation

(Portions of the first half of Mr. Knudson's timely address were published in last month's issue of *DISTRIBUTION AGE*. Because of the extreme importance of the message, excerpts from the remaining half are presented below.—ED.)

"You know, of course, that DTA does not operate any warehousing facilities nor does it direct any material to specific storage locations, as these operations are performed by the Government agency controlling the property to be stored. We do, however, have considerable responsibility with respect to assuring the adequacy of the total storage plant in this country.

"For that reason, we have worked very closely with the Department of Defense in the development of its plan for the utilization of commercial warehouse space.



JAMES K. KNUDSON
... Does not anticipate government restrictions on warehousing—hopes for voluntary cooperation

Urges Associations

"A portion of this plan, which involves the use of general merchandise warehouses in the major metropolitan areas, provides for the organization of Defense Warehousemen's Associations, similar to the Federal Emergency Warehousemen's Association you formed in World War II. Since these are to be voluntary associations of businessmen, who are normally in competition with each other, consideration must be given to provisions of the anti-trust laws.

"Section 708 of the Defense Production Act provides for a procedure whereby such associations may be formed upon approval by the Attorney General. The procedure is rather involved, since any such proposed association must be channeled from the Department of Defense through five agencies.

"The first association to receive such approval is in Chicago, and, while that particular case took sev-

eral months to process, it should be realized that this was the first or trial case. We feel confident that subsequent cases will go through much more quickly.

"The general framework established by the Department of Defense for the centralized procurement of storage services for all branches of the military has much to recommend it. The execution of single contracts with warehousemen or groups of warehousemen covering the storage requirements of all three military services and the consolidation of such over-all requirements will considerably reduce the administrative burden on industry as well as the Department of Defense.

Centralized Control

"With this in mind, my office has made a proposal whereby other government agencies would use these same contracts and utilize public warehouse space through a central control office. This proposal has been submitted to these other agencies that are large users of storage services and is now under careful consideration.

"So far my remarks have been primarily addressed to the so-called merchandise side of your association, but let me assure you that the activities of the refrigerated group have figured prominently in our considerations.

"In our approach to the problem of increasing the storage capacity to meet the anticipated requirements, it was concluded early that expansion of capacity should be accomplished on the basis of over-coming regional or area shortages rather than on a nationwide basis.

There is little or no historical information available concerning new construction in the past to serve as a basis for arriving at a sound determination of what we can expect to need in the future. Certain types of facilities, such as those for the storage of general merchandise, can be improvised from existing industrial facilities; but others, such as refrigerated space, grain elevators and tank storage facilities, must be newly constructed.

Spasmodic Growth

"The growth and expansion of your industry has occurred somewhat spasmodically over the years within certain geographic areas, stemming from increased industrial activity, agricultural development, and improved production methods. Generally, the need for increased storage capacity has been localized.

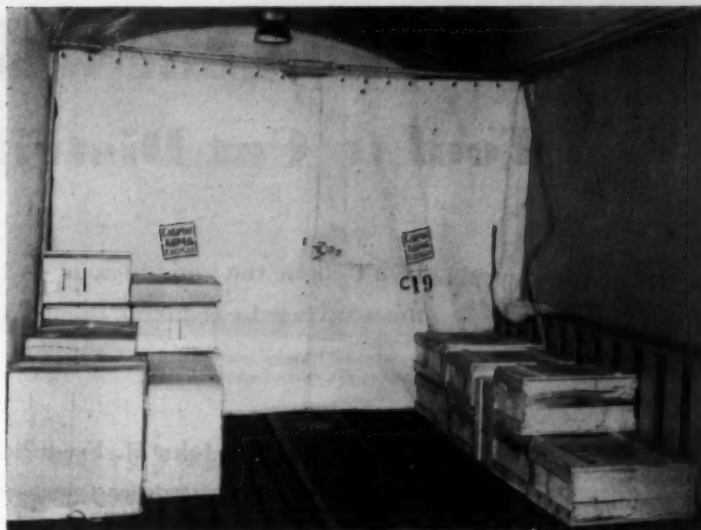
"The accelerated crop production program initiated by the Department of Agriculture to meet foreign and domestic needs plays a highly important part in storage demands. The demands of industry and related defense production add to the business of both the tank and general merchandise segments. Further, the full impact of the defense program has yet to materialize. This makes it difficult to establish reliable projections, and results in the necessity of anticipating requirements on short-term bases.

"Our primary findings in regard to the need for expansion in the four major segments of the warehousing industry can be briefly summarized:

"The nationwide rate of occupancy in the general merchandise facilities during the late summer and fall of last year approached 82 to 85%. In certain geographic areas there is a deficiency in such space due to the increased industrial production of the defense program.

"Our informal survey of existing industrial buildings which might be suitable for storage purposes resulted in the analysis of approximately 1,500 offerings, of which only a small percent was suitable.

"It is our opinion that the nation's productive efforts for defense (Please Turn to Page 71)



Refrigerated area behind drawn curtains can be altered to fit volume

LCL Shipments Stay on Ice

Equipment refrigerates section of rail cars to protect perishable commodities

A SYSTEM-WIDE express refrigeration service for less-than-carload shipment of perishable commodities, believed to be the first of its kind in North America, has been introduced by Canadian National Express.

The new method of refrigerating sections of standard express cars is expected to open new markets for shippers of smaller amounts of perishable produce such as cut flowers, fish, yeast, fruit, fresh and cooked meats and other commodities.

The inexpensive equipment can be set up in an express car in less than four minutes and can be moved quickly to increase or decrease the refrigerated area according to the volume of traffic. The equipment includes two curtains, one equipped with a zipper; a cross bar with removable ends; hooks for the curtains; a turnbuckle and four legs, two of which are straight and two curved to clear the projection of heater coils or car walls.

Refrigeration is provided by portable metal tanks, each containing 250 lb of crushed ice and salt.

During an exhaustive series of tests it was found that lower temperatures were effected when the salt was placed atop the crushed ice, rather than mixed with it. Used in conjunction with shipments packed in ice, the refrigerated service eliminates the necessity of re-icing during transit.

In one test during a freight run of 1,359 miles, a 10 ft section of an express car was curtained off and four tanks containing 800 lb of ice and 200 lb of salt were installed. Thirty-one boxes of fish were iced, prior to shipping; 26 were placed in the refrigerated section, and five left over.

The 26 iced boxes did not require re-icing during the long trip, or at the delivery point where they were turned over to a merchant. The unprotected boxes in the other end of the car had to be iced once during transit and again at their delivery point.*

Modern Public Warehousing— A Tool to Cut Distribution Costs

Don't blame the "middleman"—You can achieve
those savings by reducing the movement of goods

VARIOUS attempts have been made to lessen costs of distribution. "Eliminate the middleman," for example, long has been the cry of some manufacturers and many consumers.

Both wholesalers and retailers have been eliminated in some industries and markets. But the methods used so far to lower distribution costs simply prove that costs are not necessarily reduced by eliminating wholesalers, independent retailers or middlemen.

Costs can be reduced only by performing the functions of distribution more economically and efficiently, or by eliminating certain functions or movements of goods rather than the middlemen.

Warehousing Cuts Costs

In the already existing public warehouses, particularly the general merchandise and refrigerated warehouses strategically located throughout the country, we have the facilities to enable producers to eliminate many movements of their commodities, between points of production and effective consumption, to save transportation costs.

Public warehousing facilities of the country also make wholesale middlemen more efficient through the elimination of costly private warehouse space, and the reduction of the capital they may require for adequate stocks. Wholesalers will not necessarily be eliminated but will make more profit on the same capital investment; because of reduced fixed investments and reduced operating costs. This means more efficient distribution of most goods at a lower cost to producers, middlemen and consumers.

By John H. Frederick

*Transportation Consultant
Distribution Age*

Most public warehousing is not an additional service performed at an additional cost to the ultimate consumers—be they industrial or household—but is a series of services economically carried out in place of services that, otherwise, would be performed for them by other agencies at higher costs.

The proper integration of physical costs and financial costs of distribution, offered by the use of the facilities of public warehouses, provides a process for obtaining distribution as fundamentally economical as the results of modern production engineering have produced.

In economic terms, warehousing creates "time values" and "place values" for the goods stored.

Modern public warehousing involves much more than pure storage. It is an important marketing and financing tool that can be used to reduce the costs of transportation and distribution.

Proper use of the public warehousing facilities of the country will do much to reduce investment in plant warehouse space, delivery equipment, inventories and place stored goods in a position to be used as specific collateral for bank loans.

Private Vs. Public Warehouses

Warehousing either in their own storage facilities or in those provided by others is essential at one time or another for most producers.

To supply storage space for all factory surplus stocks of finished goods may involve an investment in buildings and other facilities which would be in use only a portion of the year. Also, a serious flood, fire, or storm might destroy the entire stock at the plant. These dangers are avoided by spreading seasonal or surplus stock among private or public warehouses at strategic marketing centers.

When such warehouse locations are selected with care, the manufacturers' goods are available for sale at points closer to the ultimate market than the factory itself. Also, when a manufacturer has purchased an extra supply of raw or semi-finished products for eventual use, frequently he finds it of great advantage to place them in a public warehouse, temporarily, in his own town. Thus, he has the supplies on hand without an investment in extra storage space at his plant.

Two Types of Warehouses

The types of public warehouses used by manufacturers usually are either general merchandise or cold-storage.

General merchandise warehouses are specialized storage and handling organizations engaged in storing finished products and certain raw materials or semi-finished goods, other than perishables. They are used by manufacturers or distributors until the goods are required by retailers, distributors, industrial users or household consumers.

These warehouses often are referred to as "distribution warehouses," since more often they act

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as service links between the producer and the consumer. Goods circulate through them or are held for safekeeping for short periods of time.

Very few warehouses of this type are exclusively devoted to the handling of merchandise. Many of them are combined with cold storage or household-goods storage operations. This is particularly true in smaller cities. But, generally speaking, any concern advertising itself as a public general merchandise warehouse carries on a distribution business and supplies most, if not all, the services which have come to be associated with this type of operation.

Cold-storage or refrigerated warehouses are used for the storage of perishables; frequently at or below temperatures of 45 deg F. They are used by producers, wholesalers, retailers and consumers for quantities of from one package to thousands of packages.

As is true of public warehouses in general, organizations of this type have no financial interests in the goods which they store. They simply preserve them for others, who pay a charge for this service.

Warehouse Charges

Public general merchandise and cold-storage warehouse services are charged for on the basis of units of goods handled—the same units as are used in selling and manufacturing; per case, per barrel, or per ton.

Thus, the manufacturer knows his per-unit warehouse and handling costs; a fact which he sometimes does not compute when he does his own warehousing.

Since public warehouse services are charged for on this unit basis, it is possible for manufacturers to establish a number of spot stocks of their products without added costs. A hundred small stocks warehoused in different localities cost the same—on a unit basis—as a smaller number of large stocks. The only difference in over-all cost is the record work in the home office of the manufacturer and the freight charges to the individual warehouse locations.

Manufacturers with national distribution realize that delivery is a

(Please Turn to Page 82)



(Left) Filled-in orders are placed on conveyor that travels above line of typing desks. (Right) Second conveyor takes them to "order control" station

Conveyor Handles Paperwork

Staff of 42 at SKF processes 30,000 orders

SMITH, Kline & French, Inc., uses belt conveyors to handle paperwork at its new Philadelphia distribution center. From the time an order is phoned in, until shipment is made, papers travel from station to station by belt conveyor. The company stocks and distributes some 30,000 drug-store items.

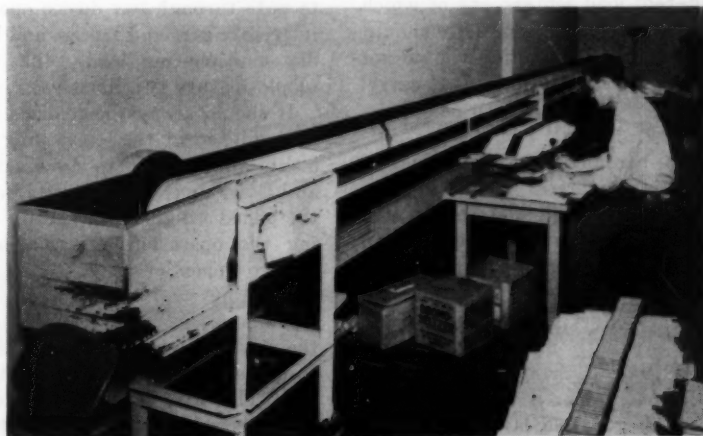
The paper flow begins in the order-receiving room, where 16 girls handle hundreds of phone calls daily. As orders arrive, they are typed on forms (Fig. 1), and placed on the conveyor which passes before the girls.

A second conveyor, at right angle to the first, takes the orders to the "order control" station where credit is checked and orders are separated. At this station, items are coded as to their location in the warehouse.

Next, the order is dispatched by vertical chute to the warehouse on the ground floor, where the order is filled. A vertical conveyor returns the papers. The vertical conveyor discharges to a third horizontal conveyor (Fig. 3) which carries the papers to the head pricer, who distributes them among 12 assistants. The carbon copy invoice is sent to the shipping desk to be inserted with the outgoing goods. The original goes to accounts receivable for entry.

Only 40 people are needed to process the tremendous traffic of hundreds of SKF orders each day. The system, designed and installed by the Lamson Corp., has eliminated confusion, prevented papers from being lost, speeded paper processing, order filling and shipping. •

Third horizontal conveyor carries the orders to head pricer for distribution



... High-Lift Fork Truck (Continued from Page 31)

load center. Note, particularly, that since there is a constant in the picture—in this case the 16½ in. from the heel of the forks to the center line of the front wheels (the fulcrum around which the truck tends to rotate)—the capacity does not vary directly as the load center is moved in or out.

Additional Poundage

Most manufacturers who offer a complete range of capacities do not build individually different machines for each. They have a few basic models, and variations in capacity are secured by the addition of counterweight at the rear end. Since this additional poundage is added at the far end of the counterbalancing lever system, the overall weight of a given truck is not increased as rapidly as higher capacities are secured; so that with a slight increase in length considerably more load can be carried up to, of course, the limit for which the machine has been basically designed.

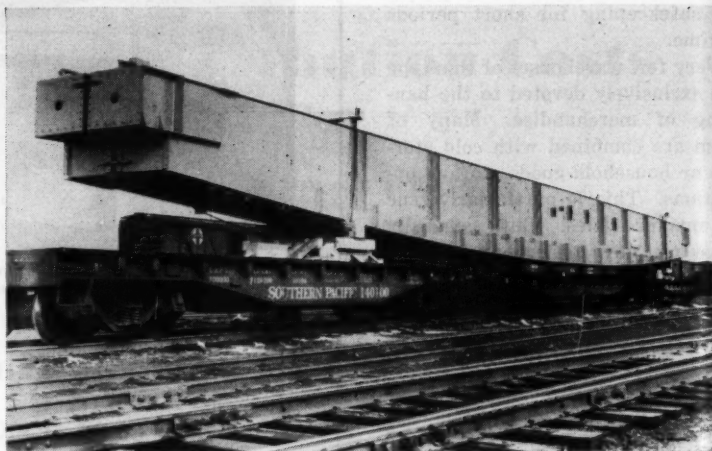
The question of load capacities of trucks should be greatly simplified in the near future. The American Standard Safety Code for Industrial Power Trucks provides that the capacities of trucks shall be uniformly expressed as at 15-in. load center for trucks up to 2000-lb capacity, 24-in. from 2000 to 10,000 lb, and 36-in. from 10,000 to 20,000 lb, and over 20,000 lb specially stated.

These standards also provide for the marking of the truck's capacity on the name plate for at least three different load centers, one of which must be set at 24 in. This should be helpful to operators who do not always have uniform loads to carry.

Overall Length

The overall length of a truck is another important point to consider, because it determines the amount of aisle space needed and whether or not a truck will fit on a given elevator, etc.

Every effort has been exerted to shorten these machines and, indeed, some of them are surprisingly shorter than a few years ago. But the good old law of the lever



This big fish belly crane presented a whale of a shipping job, but railroad people came up with the right answer. The girders for a whopping 130-ft P&H overhead crane were transported without incident from

Milwaukee, Wis., to a Pennsylvania steel mill. Every curve on the right of way, particularly on bridges and underpasses, had to be charted before the trip was attempted. Note how the middle car serves as a spacer only.

still holds. If one is really pressed for space, he may have to turn to one of the stacker types of machines, which will be covered in the next article of this series.

Height of Mast

Manufacturers have standardized to some extent on a 83-in. height of mast, with a lift of some 64 in. for non-telescopic machines.

It is, of course, possible to secure machines with fixed-height masts which are lower or higher than these figures. In any event, there is no use in using a telescopic mast if one does not need to do so.

On the other hand, there are instances where telescopic masts must be specified. If a machine is to pass through low doors, operate in freight cars and trucks, and handle multiple-tier loads, the telescopic feature is a must.

It should always be realized that the addition of the telescoping elements adds weight to the machine and slows up the lifting rate, when the added weight is picked up during the operation of elevating a load to upper levels.

Machines vary considerably in the amount of "free lift"—that is the elevation given to the forks before the telescoping mast starts to rise. This may prove to be a determining factor in such situations

as handling unit loads that are tiered in freight cars; where headroom is limited and yet sufficient lift must be given the forks to permit their entry in the upper pallets.

The ability to tilt the masts of a machine is often a useful feature. A usual range is three deg forward and 10 deg backward. The latter allows the load to settle back against the load-rest and ride more securely.

Forward motion is helpful in situations where a pallet must be picked up at the top of a ramp. Take the case of handling palletized loads out of freight cars—where the pallet is brought to the door of the car on a conveyor and a fork truck rides up a ramp to pick it off. The forks of the truck are pitched upward and, if the incline is too great, the forks will strike the upper boards of the pallet and not enter sufficiently far to take on the load. Forward tilting prevents the difficulty; provided, of course, the ramp is not inclined more than a few deg greater than three deg.

Optional Features

There are a number of optional features having to do with safety which the prospective purchaser should consider. They include back

(Please Turn to Page 62)

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United's fleet of 143 planes offers a complete shipping service. It includes both Cargoliners with capacities up to nine tons, and passenger-cargo Mainliners with substantial cargo capacity. You're not restricted to one kind of plane or one kind of service, when you ship via United! The charts below show how versatile a tool United Air Cargo can be, and how fast the service is!

Compare Transit Times:

United Air Lines vs. Rail

	LOS ANGELES TO NEW YORK	CHICAGO TO SAN FRANCISCO
PASSENGER-CARGO PLANES	9 hrs. 55 min.	7 hrs. 45 min.
ALL-CARGO PLANES	18 hrs. 20 min.	12 hrs. 25 min.
1st-CLASS RAIL EXPRESS	70 hrs. 35 min.	58 hrs. 50 min.

COST IS LOW! Shipping coast to coast by United costs you only a few dollars more than 1st-class rail. Yet, shipments travel up to *seven times as fast!* Simplified inventory control and lower crating and packaging costs are examples of the economies possible only through shipping by air. Whether your shipment is large or small, there's a United Air Cargo service to fit your needs.

Comparative Air Shipping Costs of United's Complete Cargo Service

(Los Angeles—New York used as an example)

	AIR PARCEL POST	AIR EXPRESS	AIR FREIGHT
5 lbs.	\$ 4.00	\$ 5.77	\$18.25
15 lbs.	12.00	13.31	18.25
100 lbs.	*	77.40	24.35

*70 lb. limit on air parcel post. Charges shown include pickup and delivery, except on parcel post, which include delivery only.

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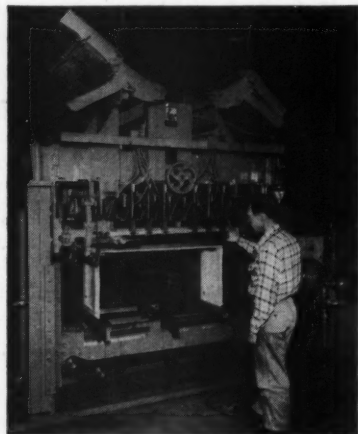


DA NEW Products

FOR FURTHER INFORMATION USE READERS' SERVICE

Industrial Box Framer

A single nailing machine to handle the complete framing of wooden boxes with a minimum of change-over time to adjust for various box sizes has been developed by Food Machinery and Chemical Corp. It allows a single operator to complete the framing of a box in three nailing strokes. Up to 48 nails can be driven per stroke, and the completed box is ejected onto a conveyor. It frames any box, rang-

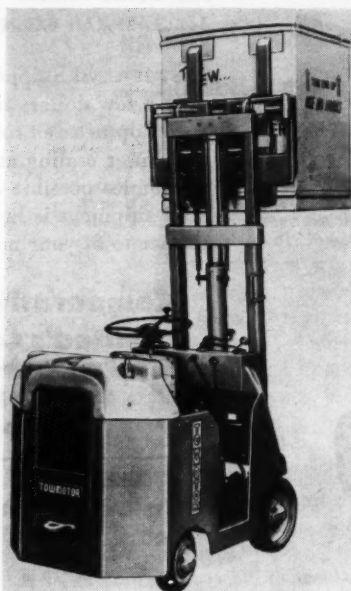


ing from 19½ in. to 50 in. long by 9 in. to 26 in. across, at from 125 per hour for small sizes to 60 per hour for large sizes.

Circle 1 on Readers' Service Card

Carton Lift

Handling heavy cartons without pallets is one of the features of the Towmotor Carton Lift engineered by Towmotor Corp. Pallets are eliminated, and two cartons are lifted at one time by placing the carton lift in contact with the bottom carton and raising the carriage. This moves the spade-like



arms of the lift up and under the interlocking cover flange, assuring maximum load stability for any handling operation. The lift is quickly interchangeable with standard forks.

Circle 2 on Readers' Service Card

Partitioned Pallet

The Heco Partitioned Pallet and Spacer has been developed by

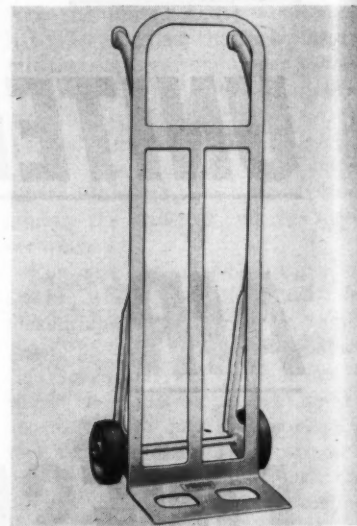


Hamerslag Equipment Co. for handling and storing tires, batteries, twine, wire, collapsible cartons and similar material subject to damage by compression or weight. It features a plywood spacer with panels slotted centrally halfway down to permit interlocking.

Circle 3 on Readers' Service Card

Magnesium Hand Truck

Penco Engineering Co. has in-



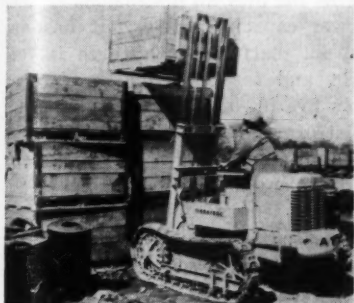
roduced an all-cast, 600 lb load capacity, magnesium hand truck, designed to meet the demands of truck-to-store fleet operators. The model weighs 15½ lb, has web-frame construction, free of rivets or bolts, ball-bearing wheels with solid-rubber or zero-pressure tires, cast-on stair climbers and comes in 44 in. or 48 in. heights. They come in three types, one handle, two handles and barrel-type with two handles.

Circle 4 on Readers' Service Card

CARD

Crawler Fork Lift

Designed to meet the need for a fork lift that can work both indoors and out, a new crawler fork lift has been introduced by American Tractor Corp. The "Terra-Lift" can op-



erate on any terrain, in all kinds of weather, and in mud up to six inches deep. Equipped with rubber track shoes, it can also work inside warehouses and factories.

Circle 5 on Readers' Service Card

Heavy Duty Truck

Heavy duty dump trucks with Super Traction planetary type drive axles are in production at the Sterling Division plant of White Motor Co. These special off-highway dumpers have a 15-ton capacity. The planetary type drive rear axle with the Super Traction

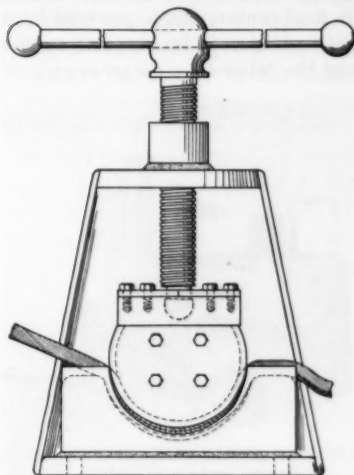


Differential divides the power delivered to each rear wheel according to the amount of traction existing, delivering the greatest portion of the pulling power to the wheel having the best grip.

Circle 6 on Readers' Service Card

New Cable Vise

For holding reels of cable on a flatbed trailer, C. A. Scheirer has developed a new cable vise, now in production and available for utility

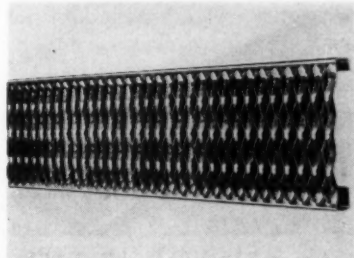


applications. The vise jaw is in three sizes for cable up to 1 1/4 in. The cable is drawn through a slotted base and the windlass tightened. The vise is mounted on the fifth-wheel platform of a low-bed trailer.

Circle 7 on Readers' Service Card

Grip-Strut Grating

The Globe Co. announces its new development, Grip-Strut Grating, a one-piece, non-skid grating surface. The struts of the grating are joined by integral saddles to create

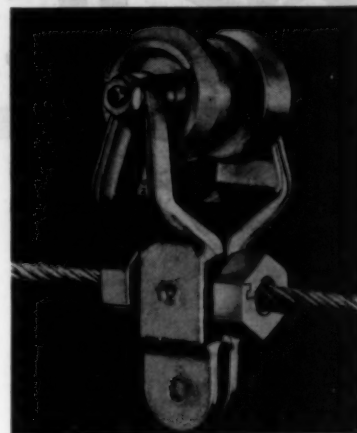


lateral struts of greater strength. Tests have shown that grating sections 20 in. wide and 48 in. long withstood over 100,000 one in. oscillations without damage.

Circle 8 on Readers' Service Card

Trolley Assembly

A new split nut and trolley bracket assembly produced by Daigle-Gaboury, Inc., has made possible the use of a 9/16 in. steel

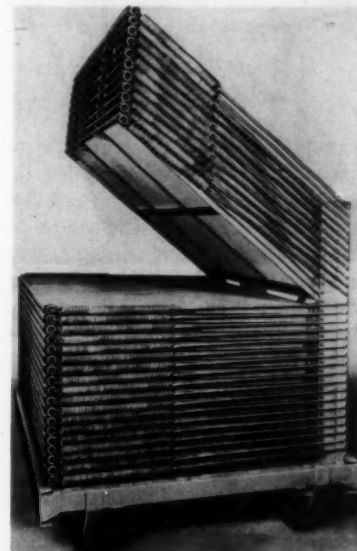


core cable in joining trolley brackets resulting in successful application of overhead monorail cable conveyor systems to heavy duty, as well as lightweight materials handling purposes. The cable passes through the sleeves of the split bracket. When the cable is enveloped by the sleeves, halves of the split nut are then brought together on the sleeve and turned on the expanding threads of the taper.

Circle 9 on Readers' Service Card

Spring Leaf Truck

The Multi-Shelf truck has been marketed by Karl A. Herman Co. to provide a large amount of portable storage space in a small floor area. It is useful where large quan-



DA NEW Products

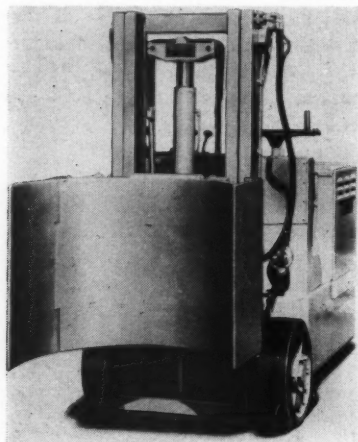
Continued from previous page

tities of small parts or materials, which cannot be stacked, must be stored and moved between operations. It has a base of heavy steel channel which carries an upright frame on one side. Shelves are carried and pivot on the frame. Two coil springs hold each leaf either in an up position or locked in place horizontally.

Circle 10 on Readers' Service Card

Paper Roll Clamp

A hydraulically actuated roll handling assembly for work trucks has been announced by Mercury Manufacturing Co. The entire as-



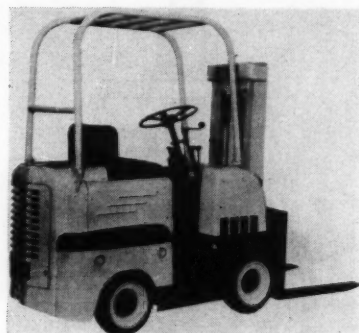
sembly is constructed in unit fashion so that it can be installed in place of standard forks. Pressure connections to the assembly are of the detachable, self-sealing type, and electrical connections are plug and socket type. Two bolts retain the assembly on the lifting carriage, and installation or removal can be effected in 20 minutes.

Circle 11 on Readers' Service Card

3000 lb Lift Trucks

Buda Co. has announced new gasoline and diesel models to supplement its line of fork lift trucks.

Rated at 3000 lb capacity at a 15 in. load center, one is powered by a four-cylinder 49 hp gasoline engine and the other by a diesel engine of

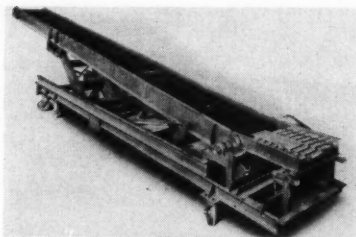


identical cubic inch displacement, bore, stroke and mounting dimensions. Mechanical features of both include removable wet sleeve type cylinder liners, industrial type 11 in. clutch, single lever gear shift and center point steering.

Circle 12 on Readers' Service Card

Slider Bed Conveyor

A portable, power driven, belt conveyor of the slider bed type has been developed by Alvey Conveyor Manufacturing Co. It is especially adaptable for unloading drums from box and gondola cars. The boom, raised by a hydraulic lifting



device, may be set at any height between the maximum and minimum points of travel. A short roller apron is provided to receive the drums or transport them to another conveyor.

Circle 13 on Readers' Service Card

Low-Lift Platform Truck

An extra-heavy-duty low-lift platform Worksaver, a powered hand truck for horizontal transportation of skids and skid bins is available from The Yale & Towne Mfg. Co., Philadelphia Division. The 7,500 lb model has the highest capacity of any truck in the company's Worksaver line, but re-

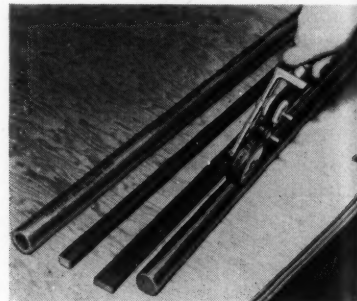


tains the over-all dimensions of the lower capacity models. It has an 11 in. platform with three in. of lift, and for operation on ramps, has five in. of underclearance. The platform is 26½ in. wide; standard platform length is 42 in. but other lengths are available. The over-all length of the truck is not increased as the platform is raised.

Circle 14 on Readers' Service Card

Continuous Marking Device

Rolamarker 601, a high-speed manual device for marking bars, tubes, rods and sheets of metal, glass, plastic, wood or rubber has been introduced by Adolph Gottscho, Inc. The new device makes it possible to print a permanent legend 3/16 in. deep by 8 in. long in a continuously repeated pattern over the entire length of the material in one quick operation. It automatically re-inks the type after

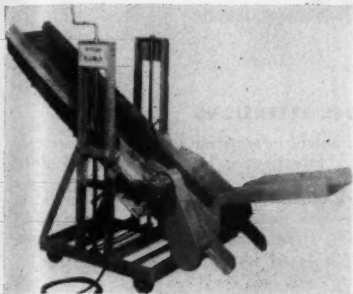


each complete impression, and the type itself can be quickly removed when copy changes are needed.

Circle 15 on Readers' Service Card

Portable Conveyor

May-Fran Engineering, Inc., has marketed the Little Hustler, a new adjustable and portable unit designed for a wide range of materials handling applications in which working heights and areas change frequently. Developed to handle



small stampings, castings, borings, turnings, chips and granular material, the Little Hustler is particularly suitable for use with permanent conveyor systems as an auxiliary unit to feed or discharge high production items.

Circle 16 on Readers' Service Card

Short Dimension Trucks

To meet demands for a truck tractor capable of hauling 35-ft semi-trailers in states with 45-ft overall limits, International Harvester Co. has introduced a new short dimension feature into its line of conventional trucks. The 102 Space Saver, featuring a 102-in. bumper-to-back-of-cab dimension, is available on International models ranging in size from L-185 to the six-wheel LF-210.

Circle 17 on Readers' Service Card

Dustproof Solution

An improved liquid treatment which hardens and dustproofs con-



crete floors has been announced by Monroe Co. Known as Concrete Floor Hardener No. 860, this colorless liquid changes the chemical structure of concrete, forming a dense, non-porous, flint-like surface which retards dusting and rutting under the heaviest traffic.

Circle 18 on Readers' Service Card

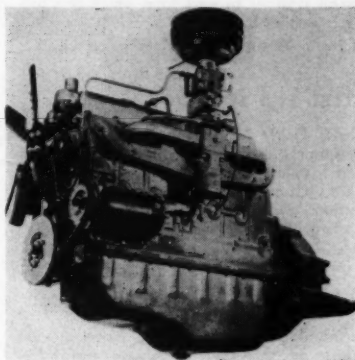
Hand Rotary Sealer

A new Hand Rotary Sealer, primarily for packaging that requires large bags, pouches, barriers and innerliners of kraft-backed and scrim-backed laminates is announced by Pack-Rite Machines. This model makes tight seals at splices and overlaps of large enclosures fabricated from spliced material. It is possible to obtain a vapor and moisture-proof seal at points where material is of extra thickness by making a seal with two grooved impressions.

Circle 19 on Readers' Service Card

High Compression Engine

A new high compression truck engine with a high power-to-weight ratio has been announced by GMC Truck and Coach Division. The 302



cu. in. engine has a compression ratio of 7.2 to 1. It generates 145 gross brake hp at 3,600 rpm, and weighs only 545 lbs dry. GMC's 302 replaces the old 270 cu. in. engine in the 450 and 470 model series.

Circle 20 on Readers' Service Card

Drum and Barrel Sling

A drum and barrel sling used for loading and unloading trucks and for general purpose handling has been developed by Palmer-Shile Co. Constructed of heavy welded chain and forged grab hooks, the sling can handle any drums, barrels or kegs with a lip. With a 1000 lb capacity it can pick up a drum or barrel from a lying position and set it on end.

Circle 21 on Readers' Service Card

Table Conveyor Line

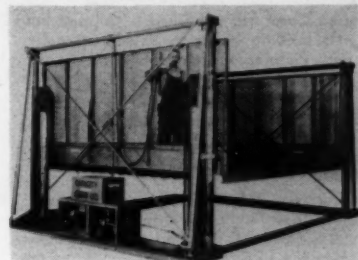
The Sage Equipment Co. has introduced a line of table conveyors, available in various widths from

six to 36 in., using either rubber belt, solid woven cotton or stitched canvas belt. The table conveyors, usually 32 or 36 in. high, can be equipped with side leaves, and can be provided with more than one belt traveling on the same slider deck.

Circle 22 on Readers' Service Card

Four Post Lifters

A new series of Electraulic Four Post Lifters has been announced

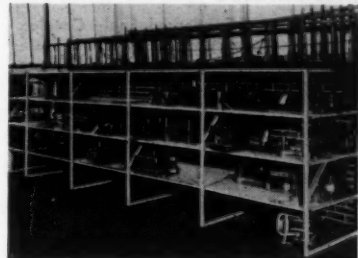


by Service Caster and Truck Corp. The Four Posters facilitate heavy loading of trucks and railway cars, and are especially fitted to level-to-level and floor-to-floor movement of trucks and skids, materials, heavy parts, etc. Models are available in platform sizes from 5 ft x 5 ft to 12 ft x 12 ft and capacities from 2000 to 12,000 lbs. Lifts range from 5 ft to 17 ft at speeds from 8 ft to 23 ft per min.

Circle 23 on Readers' Service Card

Steel Storage Frame

Ainsworth Mfg. Corp. has announced production of Mult-A-Frame, a man-sized erector set for storage, production and mainte-

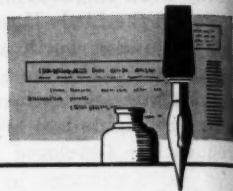


nance requirements. It consists of only three basic units which can be built to accommodate present needs, be dismantled at any time and adapted or converted without scrapping to meet new and different uses. The three basic units featured by the light-weight model include channel frame, spring-T-bolt and safe lock fitting.

Circle 24 on Readers' Service Card

FREE

Literature



AUTOMATIC PALLET LOADER

Lamson Corp. has published a 16-page bulletin describing its newly developed pallet loader. Pictures and sketches show the unit in operation and illustrate its place in volume package production.

Circle 40 on Readers' Service Card

FREIGHT RATE MAP

A new issue of Union Pacific Railroad's Freight Rate Territorial Map of the United States is now in distribution. The map shows in color the territory and jurisdiction of the various freight rate bureaus and the trans-continental groupings.

Circle 41 on Readers' Service Card

ATTACHMENT CATALOG

A color catalog featuring attachments, tools and accessories designed to lower the cost and increase the ease of handling materials with Hyster equipment has been published by Hyster Co. The 24-page brochure includes model views, diagrams, specifications, action pictures and explanatory text.

Circle 42 on Readers' Service Card

QUICK DELIVERY

Hands that are vital to your business, yet are not on your payroll, are explained in a new 4-page color folder prepared by Air Express.

Circle 43 on Readers' Service Card

SCALE CATALOG

A new 28-page Condensed Scale Catalog No. 11 has been released by Howe Scale Co. It includes a selection of 1000 Howe scales weighing from 1/64 of an ounce to 400 tons.

Circle 44 on Readers' Service Card

STORAGE BATTERY

Chicago Forging and Manufacturing Co. has prepared an 8-page color brochure on their new Varley Accumulator storage battery. Illustrations, charts and testimonials outline the battery's latest features.

Circle 45 on Readers' Service Card

MH EQUIPMENT FOLDER

The Jeffrey Co., and associates, have released a 48-page booklet giving data on their complete line of conveyors, vibrating conveyors, vibrating screens, loading machines, underground conveyors, industrial trucks, wheelbarrows and carts, industrial casters and related materials handling items.

Circle 46 on Readers' Service Card

STEEL STORAGE RACKS

Newly formed Flexa Steel Products, Inc., has published an 8-page color catalog describing its adjustable steel storage racks constructed of channel and fittings.

Circle 47 on Readers' Service Card

LCL SERVICE

Missouri Pacific Lines has prepared a 32-page directory outlining its Eagle Merchandise Service, a coordinated rail-truck service for LCL shipments. The Mo. Pac. booklet lists all stations to and from which this service is available.

Circle 48 on Readers' Service Card

PALLET AND BOX BOOK

Otto F. Fichte & Son, Inc., have released a four-page booklet of information on hard-wood pallets, wooden boxes and box shooks. Captions and illustrations show dimensions, type of lumber used and method of using the equipment.

Circle 49 on Readers' Service Card

ALL-WHEEL-DRIVE DATA

Marmon-Herrington Co., Inc., announces an eight-page, two-color brochure with information on All-Wheel-Drive incorporated in Ford trucks for improved performance in deep mud, sand or snow, on steep hills, mountain grades or other difficult driving conditions.

Circle 50 on Readers' Service Card

FLOOR MAINTENANCE

The A. C. Horn Co., Inc., has released a 12-page practical guide for economical and efficient care of floors, covering the conditioning, repairing and maintenance methods for a wide variety of floor materials.

Circle 51 on Readers' Service Card

CONVEYORS AND STACKERS

The Bonded Scale & Machine Co. announces an information leaflet containing the company's line of conveyors, stackers, scales, crushers, vibrating screens and floor-to-floor

Circle 52 on Readers' Service Card

FILMS

QUALITY CONTROL

"Quality Control Through Statistical Methods," a 30-minute film particularly useful to manufacturers and contractors is available for non-profit showing. Write Magazine and Book Branch, Room 2C765, The Pentagon, Washington 25, D. C.

Circle 53 on Readers' Service Card

FORK EXTENSIONS

Complete information concerning Towmotor Fork Extensions is included in a new data sheet published by Towmotor Corp. The data sheet outlines the use of extensions in the safe handling of such loads as sheet steel, skids and boxes of unusual length.

Circle 54 on Readers' Service Card

FORTIFIED CONCRETE

A folder giving information on AWOG, a chemical added to concrete producing longer wearing floors, resistant to acid, water and grease, has been prepared by Flexrock Co.

Circle 55 on Readers' Service Card

THE 4TH DIMENSION

"The 4th Dimension—Grain Size," is the title of a new Bridgeport Brass Co. publication emphasizing the importance of grain size in specifying sheet and strip brass.

Circle 56 on Readers' Service Card

STRAPPING APPLICATIONS

Shippers and receivers may now check their strapping applications against the latest information published in the new Signode No. 15 Catalog. It includes specifications on steel strapping, seals, tools, accessories and applications.

Circle 57 on Readers' Service Card

PREFABRICATED SHELVING

Ever-Ready Shelving, an all wood shelving with adjustable steel locking latch, is described in a circular put out by The National Corp.

Circle 58 on Readers' Service Card

DATA ON CONVEYOR REPAIR

Information on plastic rubber for the repair of conveyor belts is contained in a folder distributed by Magic Chemical Co. Names of industrial users and actual case histories show why the manufacturer can claim savings in belt replacement costs and repairs that have tripled belt life.

Circle 59 on Readers' Service Card

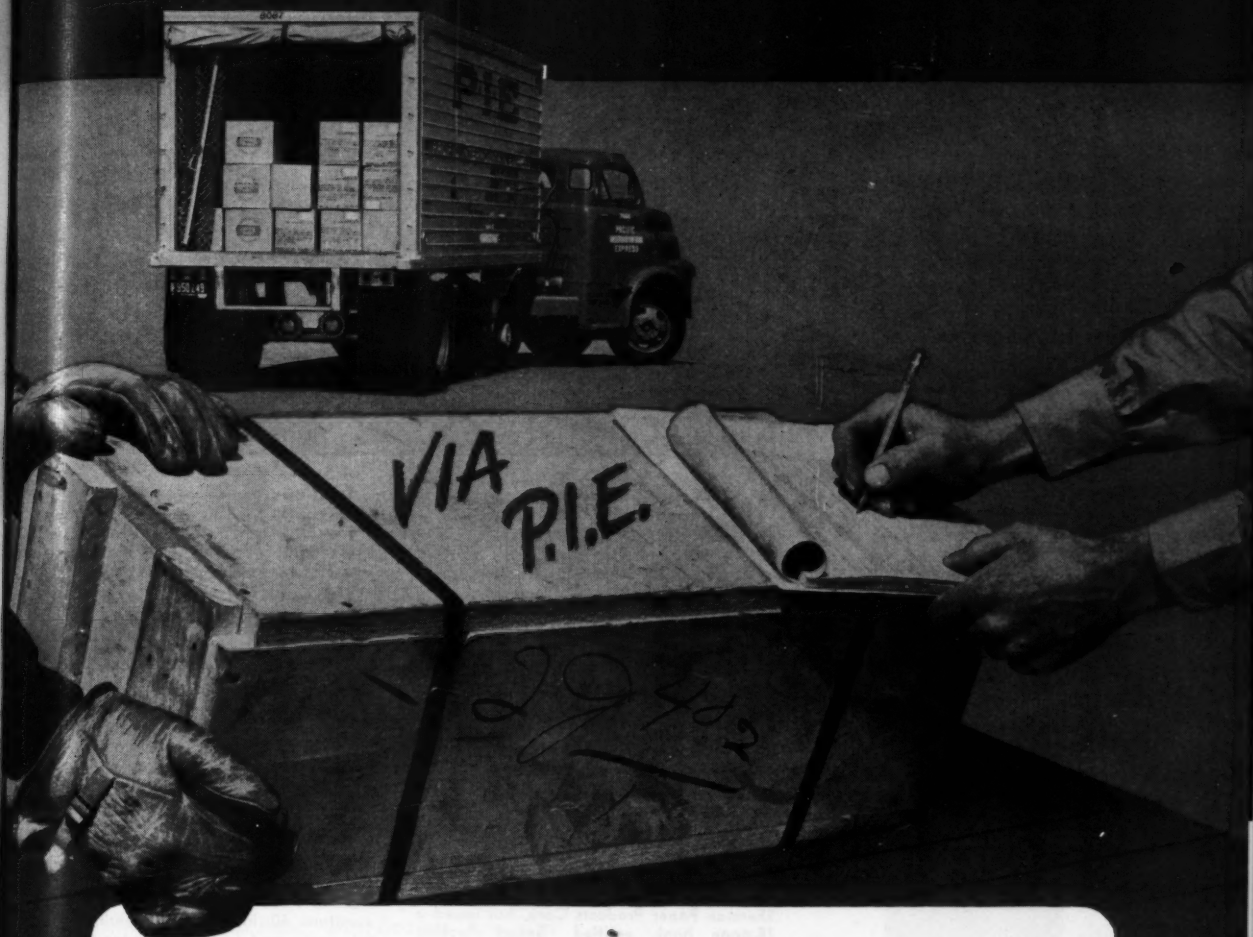
CRANE CAB COOLERS

A complete line of crane cab coolers and conditioners is described in a 24-page, illustrated bulletin released by the Dravo Corp. The apparatus is designed to maintain comfortable working conditions and supply clean air under all atmospheric and temperature conditions.

Circle 60 on Readers' Service Card

(Please Turn to Page 48)

DEPENDABLE hands...from "Door-to-Door"



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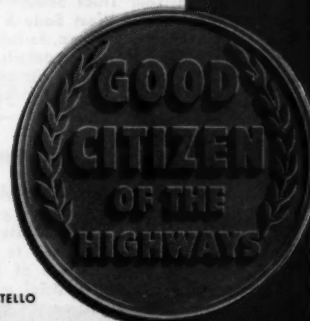


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Free Literature

(Continued from Page 46)

CARGO COOLER BOOKLET

An eight-page booklet describing the new Hunter Cargo Cooler, a complete thermostatically controlled, forced air circulation, dry ice system of refrigeration for truck and trailer cargo, has been published by Hunter Mfg. Co.

Circle 61 on Readers' Service Card

SWEEPING EQUIPMENT

The Wilshire Power Sweeper Co. announces its new series of bulletins with information on mechanical sweeping equipment, designed for industrial usage.

Circle 62 on Readers' Service Card

OIL-HYDRAULIC ELEVATORS

A catalog published by Globe Hoist Co. presents its line of oil-hydraulic elevators. For freight and passenger service, the Oilifts cover a full range of installations, from small apartment house elevators to heavy duty units.

Circle 63 on Readers' Service Card

ELECTRIC FORK TRUCKS

Lewis-Shepard Products Inc. announces a 20-page, three-color electric fork truck catalog which illustrates the company's complete line. Reference guide shows applications of equipment.

Circle 64 on Readers' Service Card

NEW FORK LIFT SERIES

The Buda Co. announces three new bulletins which illustrate and describe models of the company's "FT" series of fork-lift trucks. Each model is gasoline or diesel powered; load capacities vary from 3,000 to 4,000 lb, and load centers vary from 18 to 24 in.

Circle 65 on Readers' Service Card

BATTERY MAINTENANCE CHART

Gould-National Batteries, Inc., offers a two-color 17 x 32 in. check chart designed to improve the performance of motive power batteries. It tabulates the procedures in the five basic maintenance operations and shows how often each should be done.

Circle 66 on Readers' Service Card

TRUCKING INFORMATION

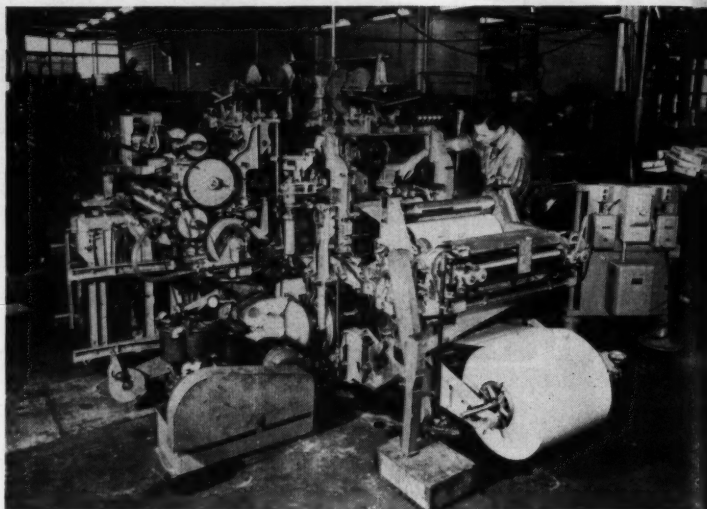
A new booklet, "Money Saving Tips on the Care of Your Truck Body," has been prepared by Mid West Body & Mfg. Division of Electrographic Corp. to help truck owners find hidden structural details of any make truck body which need periodical attention.

Circle 67 on Readers' Service Card

BRAKE & CLUTCH DEVICE

A new electric brake and clutch specification "calculator" has been made available by the Warner Electric Brake & Clutch Co. The device was designed to determine the sizes and specifications of the equipment for all types of industrial machinery.

Circle 68 on Readers' Service Card



This large double package maker, manufactured by Pneumatic Sales Corp., Quincy, Mass., is capable of turning out more than 3900 cereal, cracker or

food-mix packages an hour. One of the key components is a battery of eight G.E. Calrod tubular heaters installed on each machine to heat paraffin and glue.

LITTLE PACKAGING LIBRARY

"How to Use Holiday Corrugated Boxes" is the new addition to the Hinde & Dauch Paper Co.'s Little Packaging Library. More than a dozen types of holiday boxes are illustrated.

Circle 69 on Readers' Service Card

"SPEED PACKING MANUAL"

Sherman Paper Products Corp. has issued a 28-page book, entitled "Speed Packing Manual," which illustrates ways to save shipping costs, packing costs and time in packing and outlines and illustrates methods of packing various items.

Circle 70 on Readers' Service Card

STACKER BROCHURE

A brochure on its "101" Transtacker electrical-propelled, driver-led industrial trucks for lifting, moving and stacking materials, has been released by the Automatic Transportation Co. The full line includes platform, open-faced pallet, suspended load and straddle type pallet units.

Circle 71 on Readers' Service Card

CONVEYOR CASE HISTORY

How a typical automotive parts distributor stepped up handling efficiency by using a more systematic conveyor method in his two-floor warehouse is described in a four-page field report released by the Rapids-Standard Co., Inc.

Circle 72 on Readers' Service Card

CRAWLER CRANE CATALOG

A catalog describing the new American crawler crane has been made available for distribution by American Hoist & Derrick Co.

Circle 73 on Readers' Service Card

HIGH LIFT TRUCK

The Raymond Corp. bulletin 242 describes the company's hydraulic model high lift truck of 1,000 lb capacity which comes in a standard 60 in. elevated height or in a telescopic model which elevates to 108 in.

Circle 74 on Readers' Service Card

BAKER CASE STUDIES

Two case studies, Report 244 and Report 292, are available from the Baker-Raulang Co. They describe less expensive and more efficient operation at a bottling plant and at a new loading dock.

Circle 75 on Readers' Service Card

INDUSTRIAL TAPES

Fourteen color varieties of industrial packaging tapes are shown in a folder on "Scotch" brand pressure-sensitive tapes, available from Minnesota Mining & Mfg. Co.

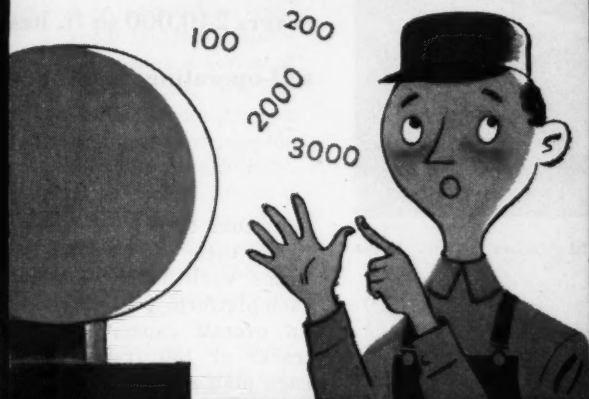
Circle 76 on Readers' Service Card

TWO SEALING BULLETINS

Two shipping room aids, "Why Gum Sealing Tape?" and "What Every Shipper Should Know," are available from the Gummed Industries Assoc., Inc.

Circle 77 on Readers' Service Card

No "Waste - Time" Weighing...



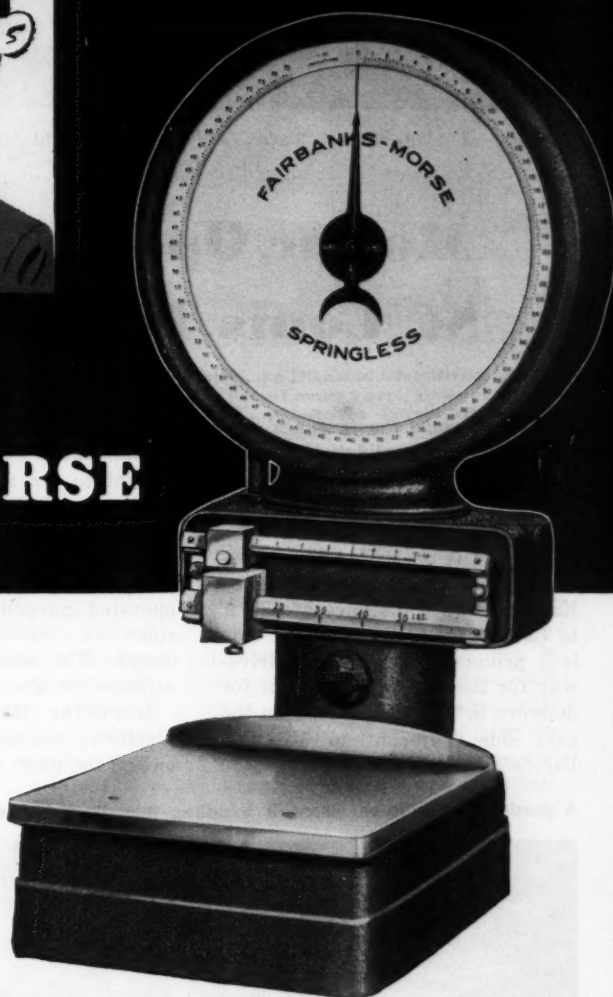
WITH

FAIRBANKS-MORSE

You speed your weighing operations with Fairbanks-Morse Bench Dial Scales. And that means there are no "bottlenecks" to hold up production all through your plant. Here's why:

With Fairbanks-Morse Bench Dial Scales, weights are read right at the point of the indicator. No time-wasting mental calculations are needed. You can weigh as fast as material can be moved on and off the scale platform. And, easy-to-read charts plus elimination of mental calculations reduce the possibility of human error . . . stop profit-eating weighing losses.

To eliminate "waste time" weighing in your operations, consult your Fairbanks-Morse weighing expert. Or, if you prefer, write Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.



FAIRBANKS-MORSE,

a name worth remembering

SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS
HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY • MAGNETOS



Air view of MoPac's new 5-acre, 3-block long freight station in St. Louis

MoPac Opens New St. Louis Terminal

THE Missouri Pacific Lines' new 5-acre Consolidated Freight Terminal in St. Louis was placed in service early this year.

The new Consolidated station fronts 314 ft on Miller st. and extends south along the east side of Kosciusko st. a distance of 770 ft to Carroll st. Along the west side is a private 50 ft concrete driveway for the pick-up of freight for delivery in St. Louis; while on the east side, adjacent to Missouri Pacific's Lesperance st. yard, there

is a paved area 75 ft wide to accommodate trucks delivering freight to the station.

There are 131 loading doors on the east and west sides of the building—for the receipt and delivery of freight and each door is operated independently so that the sides of the building remain closed. The south end has three airplane hangar type doors.

Inside the station there are two platforms, one on the east side and one on the west, which are slightly

**\$1,500,000 freight building
holds 180 cars on 12 tracks;
covers 240,000 sq ft, has 131
self-operating loading doors**

more than 51 ft wide each and between them are two island platforms, each 30 ft wide. Between each platform are four tracks with an overall capacity for the 12 tracks of 180 freight cars, and each platform is 750 ft in length. Eight of the 12 tracks are stub tracks which end at the north end of the platforms and four tracks, along the east platform, are through tracks leading directly to the new elevated structure soon to be built in connection with elimination of a number of grade crossings on Poplar st.

Connecting each platform, so that communication may be had from one to the other at all times except when actual switching operations are taking place, are "rollaway" bridges which, like the doors at the ends of the building, are operated by electric motors. They operate on steel rails which have a gauge of eight feet. •

A portion of the huge materials handling fleet, including the company designed "Speedbox" at MoPac's new terminal



... Truck Operation Costs

(Continued from Page 27)

they are in good shape. A good truck driver does this daily, whether his vehicle is new or old. That is where preventive maintenance begins.

In terms of an automotive engineer, or a good freight maintenance man, PM means a series of well-planned inspections, lubrications and adjustments designed to keep a vehicle as nearly as possible in its original state of efficiency. This lengthens the useful life of a vehicle to a point where its additional earning power, before major repairs, more than offsets the expense of making these inspections and adjustments.

It is important that all these inspections, lubrications, and adjustments be performed as specified by the manufacturer. Generally speaking, the maintenance and the inspection periods and maintenance practices are governed by the type of vehicle.

If at no other time, the reawakening comes when the truck owner is obliged to trade his vehicle in for new equipment. Appraisal of one vehicle, in excellent operating condition and of good appearance, may not only rate the average trade in value but it may rate a premium. Assuming that such a top price would run around \$1500, an old vehicle of the same make, model, and length of service may only bring \$500—and this may be offered reluctantly because the dealer knows he might have to give that vehicle at least an equal amount for rehabilitation to dispose of it.

In previous articles of this series, some references were made as to how maintenance practices effect the operation costs. In one case (See March DA), fewer consumption figures were quoted to show the effect of maintenance practices on operating costs.

In another case, we pointed out from data obtained from a freight study that the total maintenance cost rose from about three cents a mile to four cents a mile. When a PM System was installed, in the following month, the maintenance cost went below two cents a mile.



Modern bulk materials handling equipment has again solved an unusual problem. Faced with the job of moving mountains of bones from rail cars to stock-

piles, the Diamond Glue Division of Peter Cooper Corp., Gowanda, N. Y., selected a Lorain crane and clamshell bucket to do the jobs, quickly and inexpensively.

Fig. 3 illustrates graphically the effect of preventive maintenance on vehicle efficiency and its ultimate life.

Preventive Maintenance, today, is the best-known method for economically combating vehicle failures and reducing the number of road delays. Preventive Maintenance does not cost—it pays. However, there are two requirements for making preventive maintenance profitable—good personnel and a good record system.

Need Good Personnel

By good personnel it is meant, of course, good maintenance men. However, as previously mentioned, it should not be overlooked that drivers be given the necessary instructions to take care of their vehicles daily and cooperate by careful handling and lack of abuse.

As far as a good record system is concerned, most manufacturers offer a maintenance program service through their dealers. A number of these manufacturers also have developed sample systems with detailed forms that can be

used in keeping the necessary records to make the system and program successful.

Too many truck owners are under the impression that preventive maintenance systems are in use principally by large fleet operators. While it is undoubtedly true that the large fleets have excellent preventive maintenance systems, these systems are not a luxury. They would not be in use if they did not produce a profit.

Many large fleet operations, on the other hand, also have just the collection of small fleets under one ownership but are serviced locally. One large baking company, for example, figures that 10 vehicles justify a service setup. If the local services aren't adequate in the areas where they operate less than 10 vehicles, then a travelling mechanic from a maintenance headquarters covers these vehicles for periodic inspections and adjustments.

Incidentally, another interesting experience concerning this bakery fleet comes to mind. During the last war, a rigid preventive main-

(Please Turn to Page 54)

... Truck Operation Costs

(Continued from Preceding Page)

tenance program was adopted because of the shortage of vehicles for civilian use. We had occasion to contact this fleet off and on for seven years and I am in a position to know the results obtained from this program.

The trucks are operating in a dense-traffic area and with low daily mileage. However, the low mileage accumulated on the odometer was no indication of engine performance, as there was considerable idling due both to traffic and delivery conditions.

Yet, after seven years and 130,000 road-miles per vehicle, only one engine head had to be pulled: And that was due to faulty oil accessory that was being tested at that time on this vehicle. The trucks at the end of this period were performing their top efficiency.

An extreme reverse condition was encountered in a recent survey of vehicle operation and maintenance practices in a large wholesale grocery operation. This survey was comprehensive and thorough and covered the four following major elements:

1. Inspection of Maintenance Facilities.

2. Examination of Maintenance and Operating Practices.

3. Study of Maintenance and Operating Records.

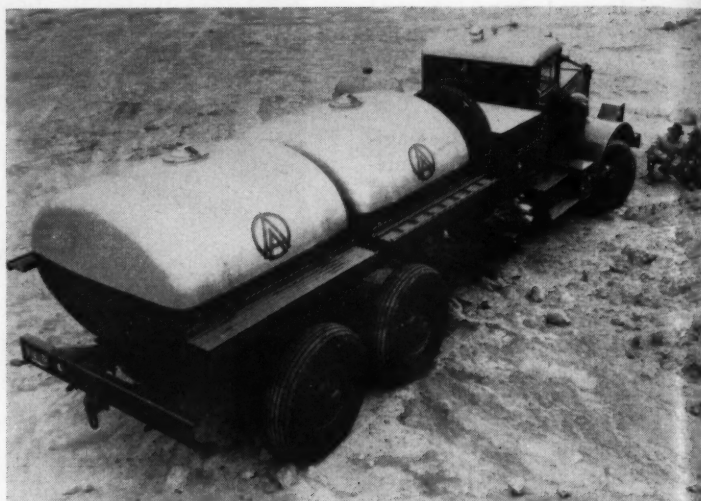
4. Inspection of the fleet.

Commissions found during this survey are summarized briefly as follows:

1. Facilities

Maintenance operations are performed in a shop having total floor space of approximately 1600 sq ft. This space, while adequate for handling a certain portion of the essential work, was, at the time of our inspection, dirty and loaded with scrap and junk. Such conditions made it impossible to do good work.

This shop is equipped with an assortment of service tools and equipment. We reserve comment on them until they can be sorted out and matched against requirements of an organized maintenance plan.



The Arabian American Oil Co. has turned to a combination of plastic and glass tanks, replacing steel, to protect liquid cargos across the Saudi Arabian deserts. Laminac and Owens-

Corning creations, the new tanks are expected to last 10 to 50 times longer than steel. They are stronger than steel tanks and better equipped to resist the elements.

2. Methods

At the time of our survey, there was no method to the fleet maintenance activities. There was no established PM or maintenance pattern, nor a recognized fuel system.

Mechanical work was being done on a "catch-as-catch-can" basis with obvious vehicle deficiency being the determining factor as to when a truck would be serviced. In addition, there was no clear cut control or system over the kind of work to be handled in this shop.

The irregularity of service applied both to mechanical work and to such basic and necessary items as chassis lubrication and engine oil changes.

Accepted practice in the truck industry requires chassis lubrication every 1,000 to 1,500 miles. A summary taken from the garage records of this fleet indicated that the lubrication period ranged from 880 miles, in one case, to 8,585 miles, in another case. The average interval was 4,000 miles.

Good practice, in operations such as this one, also dictates changing engine oil at 1500-mile intervals. A similar search through records in this shop indicated that some trucks ran as far as 15,400 miles without an oil change.

3. Records

Previous article in this series indicated that good management and low cost of fleet operation are impossible without a good record system.

In the operation survey, conscientious effort was made at the office to compile accurate vehicle data. Owing to deficiencies in the shop, however, these figures, when tabulated, have practically no significance because they are inaccurate and incomplete. The result is that management can never know (under its present system) what the operating cost of any particular vehicle is, or whether it is doing its work efficiently or poorly.

4. Truck Equipment

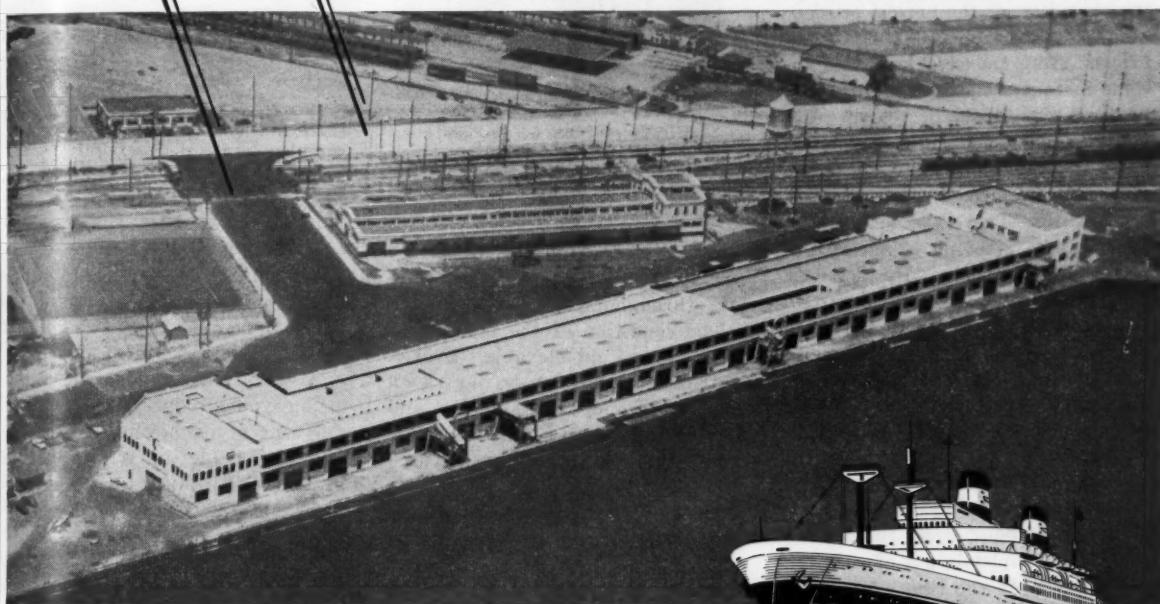
To give as accurate a picture of the true condition of the fleet as possible, we decided, with the fleet owners approval, to run each power unit in the fleet through one of our branch service departments. Each truck was given a thorough examination including a dynamometer check, and the report was submitted on these findings. Neither our personal time, nor available space in this publication, permits us to dwell at length on the con-

(Please Turn to Page 56)



\$4,500,000 DEVELOPMENT FOR MARINE COMMERCE

The Board of Harbor Commissioners has recently completed one of the world's finest marine terminals for passengers and cargo at Berth 154, Wilmington District, for the American President Lines



Los Angeles Harbor is following a broad, comprehensive plan for improvement of Port facilities for the benefit of marine commerce. Recently assigned to the globe-circling American President Lines is the 8-acre combination passenger-cargo marine terminal, just north of the main turning basin. Another transit shed for the Steamship Company is being built at Berth 153.

A second major project is the \$6,000,000, 46-acre marine passenger and cargo facility now under construction for the Matson Navigation Company at Berths 195-199, Wilmington District.

Los Angeles Harbor will have two of the world's finest marine shipping centers . . . bar none.

LOS ANGELES HARBOR
Planned and Built for Shipping

FOREIGN TRADE ZONE - 4
Berth 60 Warehouse - 1

LOS ANGELES HARBOR

Board of
Harbor Commissioners,
City Hall,
Los Angeles 12, Calif.

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... Truck Operation Costs

(Continued from Page 54)

dition found of the individual trucks. However, a few highlights will serve to point out how badly the fleet has been mishandled.

ENGINES—With the exception of new vehicles, the engines of these trucks were found to be in a fair to poor condition. Many of the trucks were badly in need of tune-up and adjustment. Lubricant was leaking from almost every possible point. Power output on many of the trucks was low.

AXLES—With the exception of one new truck, every rear axle inspected had lubricant leakage.

TRANSMISSIONS—Again, with the exception of the newest trucks, every transmission was leaking lubricant from the rear seal, and in some instances the rear main shaft bearing was loose, or one of the main drive gear bearings was noisy—an indication of wear and possible early failure.

STEERING—There was maladjustment of the steering geometry on nearly all the trucks. In addition, they were severe safety hazards. For example, on one truck the king pin bushing and tie-rod ends were worn very badly and needed replacement. Both of these units have a direct effect on the control of the truck.

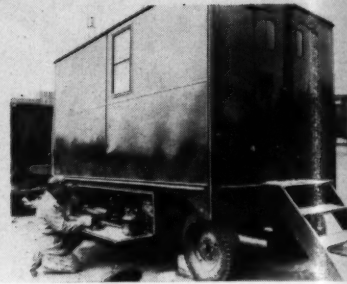
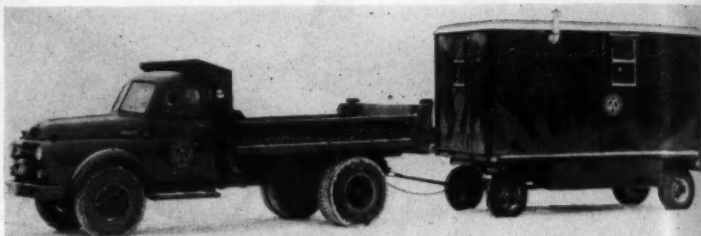
Tie-rod end failure on a fully loaded tractor-trailer traveling at 35 miles per hour easily could send the truck completely out of control.

SPRINGS—At the time of the inspection there were at least eight broken springs in the fleet of 19 vehicles. The implication of this condition is obvious.

BRAKES—On every truck inspected, there was a defect in some part of the brake mechanism. These deficiencies ranged from master cylinder to excessively worn brake linings.

Such conditions are hazardous in the extreme. It is safe to say that had the drivers been aware of these conditions, they might well have refused to take the trucks out on the highway.

CABS AND BODIES—With the exception of the newest vehicles, the appearance of the fleet was not very good. Bent and rusty sheet,



Milwaukee Gas Co. makes good use of a 4-wheel trailer truck body combination which on job location acts as combined tool

shed and shelter. Top — The complete unit. Left—Comforts are added to the interior. Right —Tool box beneath trailer.

badly abused cabs and broken or rusted running boards were common throughout the fleet.

The condition of the interior of the cabs was unbelievable. Broken instruments, torn seats, broken door glass, inoperative lights, and filth were common conditions. For trucks that were five years, or less, old, those vehicles had shown effects of at least 10 years usage. Cab hold-down bolts needed tightening on many trucks, and in one instance, the frame was cracked.

TIRES—To get the most expert advice on the tire problems we solicited the help of the Goodyear Tire & Rubber Co. At our request, they assigned two fleet engineers to continue the survey of this property.

They found that tire practices in the fleet correspond to the kind of maintenance the fleet is receiving generally. Inspection revealed that the wholesaler unquestionably was spending hundreds of dollars annually for tires that could be saved with a simple plan of tire maintenance.

As an example, the toe-in adjustment is extremely critical as it affects tire life. A maladjustment of $\frac{1}{8}$ in. is sufficient to wear tires

excessively. Yet, on nine trucks representing 48 per cent of the fleet, this critical adjustment was found to be out of adjustment from $\frac{1}{8}$ in. to $\frac{3}{4}$ of an in.

A $\frac{3}{4}$ in. out of adjustment condition would reduce tire life to 25 per cent of its normal life expectancy. Considering a tire costing around \$135, this is a net loss of \$100—or \$200 on that one truck alone, considering wear on two front tires. This \$200 easily would pay for a great deal of regular tire maintenance.

Under-inflation was another common condition found in this fleet. In general, about 50 per cent or more of the fleet had tires that were improperly inflated. Most of the error lay on the low side, which reduced greatly the capacity of the tire, caused excessive working and heat build-up, and severe loss of tire life.

It can be seen from the foregoing, that the wholesaler mentioned is in extreme need of intelligent fleet management and immediate corrective measures. Although aggressive and progressive, he was completely unaware of these conditions. •

(Resume Reading on Page 28)

... Model Layout

(Continued from Page 21)

One McCulloch department head, in discussing advantages of the board to traffic control, both inside and outside the plant, points out that companies using models, but making them either two dimensional or in scaled wood blocks, are making a mistake.

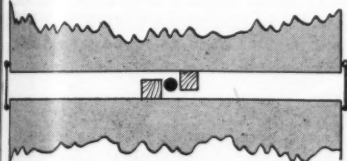
"It's almost impossible to visualize with accuracy clearances unless the model is exact. Exact models put realism into pre-planning and flow scheduling."

Byron Smith, McCulloch's plant layout engineer, is enthusiastic about the board. "When we make an equipment or departmental move—which happens often nowadays considering our \$5,000,000 expansion since war's end—we make just one move. Not two or three. There's no second guessing when you work directly from a model board such as ours." •

(Resume Reading on Page 22)

Lazy Susan ...

(Continued from Page 25)



Removable boxes revolve about pole in center of the platforms

wash-up area; assembled in sets; transported to kitchen; fresh food picked up in single units at kitchen; transported by truck to waiting lift-truck at plane; cart lifted to plane and containers handled individually. A good 70% of this work is now performed by the shelves of the Lazy Susan.

Materials handling men in the Montreal area have shown keen interest in the idea of a compartmentalized, revolving pallet. Harold Worley, materials handling specialist at Canadian Industries Ltd., thought a revolving pallet would have a function in older buildings where narrow aisles in the stacking area prevented the lift-truck from readily backing up when both sides of the aisle were being handled. •

(Resume Reading on Page 26)



Route your trucks the shortest way every trip. The time and gas used by your drivers looking for unknown streets, driving all around Robinson's barn to make deliveries, will buy a hundred maps like Hearne's Street Map of your city and county area.

Street names are in big, black type, and instantly spotted with Hearne's patented, automatic Street Finder. And every map is mechanically indexed.

Over 100,000 truck owners use Hearne maps every day to give customers better service and cut truck mileage. Many users claim they save the cost of the map in a single day's use.

YOUR CITY MAP FOR 10-DAY FREE TRIAL

Send for cloth, cellophane-finished 44" x 65" map now. Stop delivery waste. Mark routes in crayon we supply. Washes off instantly. Use map for 10 days. Then, if you can get along without it, send it back ... or send \$42.50 and it's yours.

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FREE EXAMINATION ORDER FORM

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Without obligation on my part, send me a map of my city and county area. After 10 days' FREE use in my office I'll return the map or remit \$42.50. Prices on cloth, cellophane, spring rollers, stainless steel and labor are going up! Order today!

Your Name _____

Company _____

Address _____

City _____ Zone _____ State _____

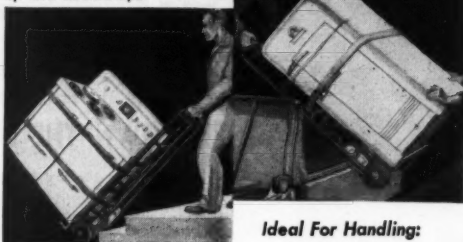
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Appliance Movers Like

Escort HAND TRUCKS

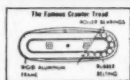
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CRAWLER TREAD

CRAWLS on Roller Bearings
up and down steps



Everybody likes this APPLIANCE TRUCK!

The ideal truck for every purpose! No lifting
... no fatigue ... carries a full load safely up
and down stairs and crawls over obstructions.
Your men will appreciate the Escort truck.



Ideal For Handling:

- Refrigerators
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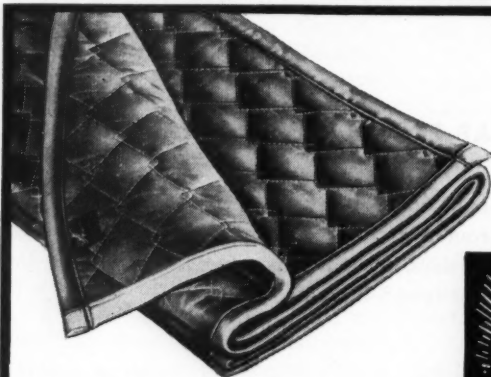


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P. O. Box 897



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NEW LOCK-STITCH (non-raveling)
Seams. "The favorite" of warehouse-
men, van lines, and department
stores everywhere — the toughest,
longest wearing, most satisfactory
furniture pad money can buy!
Guaranteed satisfaction, or your
money back. Order from factory
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MEN in the NEWS

(Continued from Page 13)

—Highway

Albert C. Vaughn, Jr.—selected to represent Branch Motor Express Co. in the Allentown, Pa., area.

Earl H. Lewis—named manager of sales training and E. S. Hoke branch manager in Albany by White Motor Co.

James L. Beckley—named resident controller, Fruehauf Trailer Co.'s Avon Lake, Ohio, plant. Fruehauf also named D. J. Harker personnel director at Avon Lake.

—Water

Rear Admiral Edmond J. Moran, president of the Moran Towing and Transportation Co.—elected president, Maritime Association of the Port of New York.

Packing and Packaging

George H. Kubes, president of American Box Co., Cleveland, Ohio—named a director by the Wirebound Box Manufacturer's Association.

Walter J. Wilks—appointed manager of Chase Bag Co.'s Chagrin Falls, Ohio, paper mill. Chase also named H. E. Dennie sales manager of the Philadelphia Branch territory. R. G. Bullock has given up a post with NPA to return to Chase as manager of the Cleveland office.

Warehousing

Paul Lorton—appointed vice president in charge of sales, Lawrence Warehouse Co., San Francisco, Calif.

Wayne G. Brown, Lee A. Hyde and Samuel E. Emmons—named to survey warehousing, transportation and port facilities in the Hawaiian Islands by DTA.

John J. McMackin—appointed vice president in charge of the Eastern Division by American Express Field Warehousing Corp.

—DA—

OBITUARIES

George C. McClure, executive vice president and general manager of Hercules Steel Products Corp., died suddenly of a heart attack at his home in Galion, Ohio, late in April. He became executive vice-president of Hercules in 1948, and at a recent annual meeting took on the added duties of general manager. Mr. McClure was 46.

Preston John Kessel, 55, died of a heart ailment May 21 at his home in Washington, D. C. He was a veteran of 17 years service with the American Trucking Associations, Inc. He joined ATA in 1935 as manager of the production and mailing department.

(Resume Reading on Page 15)

... Refrigerated Warehouses

(Continued from Page 30)

any floor-to-floor operations to speed up handling?

3. Is any operation being done manually that could be done more efficiently by a mechanical device?

4. Are the fast turnover items stocked in the most accessible spots where the haul is short to and from the docks? Are the cumbersome, hard-to-handle items also given a preferred location so that a minimum amount of time is spent hauling?

5. In so far as is practical, do you stock together those items that are usually ordered out together?

How About Housekeeping?

The necessity for sanitary conditions is axiomatic, but does the appearance of the building suggest sanitation to outsiders?

1. Have you checked, re-checked and double-checked to be sure that there is no food being contaminated by odors from other foods, from building materials, or from food containers?

2. Have you taken proper precautions against fire? Check these things particularly: Condition of sprinklers, fire hose connections, number and type of extinguishers.

3. Does the building exterior convey the impression that your place is up-to-date, and well run?

4. Have you taken adequate protection along these lines? ... water damage from leaky roofs, drain pipes, seepage through walls, pipe leaks, window and door leakage?

5. Is sanitation what it should be? Is the building structurally

clean so there are no places for insects or rodents to move into? Is the personal hygiene of employees a credit to the business? Are the insecticides you use non-toxic?

6. Have you taken sufficient steps to avoid theft during business hours and after hours? Are locks adequate? Are window bars justified? Are pilferable items well protected? Is the alarm setup satisfactory?

7. Are any floors overloaded? Remember, overloading of a rated floor is negligence in the eyes of the insurance people and they are thus relieved of their obligation in the event of building collapse.

8. Does lighting in the stocking area equal the five-ft. candle illumination necessary for easy reading of labels and handling of items.

9. Do floors need levelling or patching? Are there any floor conditions that are conducive to trucks tipping over, injuring personnel and merchandise?

10. Are washrooms in need of paint or repairs? Are toilet facilities adequate?

(Please Turn to Page 60)

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If you want maximum floor protection, economy and efficiency Demand Darnell Dependability...Made to give an extra long life of satisfactory service.

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"A Complete Transportation Service"



CONSOLIDATED FREIGHTWAYS

GENERAL OFFICES: PORTLAND 8, OREGON

CARLOAD SPACE AVAILABLE

at HORSEHEADS Industrial Center

for in-transit storage east or west

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Overnight distribution to area of 40 million persons between eastern seaboard and Mid-west

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LEHIGH-HORSEHEADS WAREHOUSE CORP.

Horseheads, N. Y. or 98 Frelinghuysen Ave., Newark, N. J.

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...Warehouses

(Continued from Page 59)

What About Safety?

The frequency of injury to warehouse personnel is greater in refrigerated warehouses than in any other general warehouse type. Safety warrants a generous share of management attention.

1. Are main aisles kept consistently free of obstructions that might cause accidents, particularly loose pieces of ice? Is all mechanical equipment provided with necessary safeguards? Do any handling methods need changing to minimize the danger of lost time accidents?

2. Do you have a planned, continuing safety education program for your employees?

3. Are all machines and other areas where men work on ladders, etc., equipped with safeguards so there will be no "fall injuries"?

4. Have you absolutely minimized the ammonia hazard in your plant?

5. Electrical hazards are multiplied by damp conditions. Is your electrical setup checked thoroughly, frequently?

Perhaps New Equipment?

Would new handling equipment be a sound investment? Usually it is more costly to live with old, outdated equipment than it is to dispose of it.

1. Could continuous conveyors, either flat or overhead, be used to advantage in your buildings? Would such a system pay for itself through the reduction of man hours spent moving loads to and from stock?

2. With another type of carrier, could you move more merchandise per trip to and from stock?

3. Are there mechanical devices on the market that will enable you to handle certain items with fewer men? By installing such devices in several spots, could you reduce the size of your labor force?

4. Would overhead equipment or tiering devices enable you to use vertical space more efficiently?

5. Would floor-to-floor conveyors break the elevator bottleneck? Would they make possible faster

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processing of orders?

6. Are there operations on the shipping and receiving platforms that could be done faster and more economically if labor-saving equipment were obtained?

7. Would the volume and nature of the business justify your installing a pallet system? If elevators have inadequate lift capacity to accommodate fork lift trucks, could you use lighter-weight "high lift pallet trucks"?

The General Operation

A refrigerated warehouse is a temporary home for fast travelling merchandise that requires kid gloves handling.

1. Being entirely realistic, do you just rent space or do you merchandise the benefits of a thorough knowledge of what products should be stored where and how?

2. Are you getting geared to receive non-food items such as wet cell batteries and patent leather that seem to comprise a large future market?

3. Are your shipping and receiving facilities large enough to accommodate today's volume of



Waste distribution at the Burroughs Adding Machine Co. has been simplified by a unique cart system. It features sleeves welded on each side of the waste cart and a welded structure erected on the plant floor. Two arms of the structure slip into the sleeves. A double acting air cylinder acts on a cable which passes over a pulley and is so attached as to upend the cart when the cylinder stroke is down. On the return stroke the cart is lowered to the floor.

refrigerated warehouse business?

4. Does your warehouse superintendent keep abreast of new tem-

perature, humidity and gas techniques for preserving and ripening fruits and vegetables? Does he really know "his stuff" about what items fare best in what areas of the warehouse?

5. Are you being adequately compensated for such fringe services as supplying dunnage, inspection, physical checking, cooping, weighing, re-piling, marking, tagging and billing?

6. Are you getting your share of the government's food storage requirements?

7. If the temperature loss through outside walls is more than six deg F, then more insulation might be an economical investment. Have you checked this lately?

A refrigerated warehouse is one leopard that can change his spots. He has to, every time a major change in food processing takes shape. Repeated renovation is costly and the best ways to offset that cost are to increase the volume or tighten up efficiency-wise.

Take a walk through your place today and see if any of these checklist questions will make you flinch?

(Resume Reading on Page 31)

FROM CONNECTICUT TO CALIFORNIA —

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... High-Lift Fork Truck

(Continued from Page 40)

guards, especially recommended to hold high unit loads; canopy guards to protect the operator from the danger of falling packages and certain "Underwriter approved" accessories for gasoline trucks, designed to eliminate the possibility of fire and of danger from fumes.

Practically all machines now come equipped with certain basic safety features—warning signals, brakes which will hold the truck on grades up to 10 per cent, even with a capacity load, "dead man" controls, which make the machine inoperative when the attendant leaves it, etc. It is a good precaution, however, to be sure that the machine has a locking device to prevent its being used by unauthorized persons.

Some manufacturers give the prospect a choice between solid or pneumatic tires. Many machines are now equipped with so-called cushion tires which are an improvement over the plain, solid type.

No discussion of fork trucks

would be complete without some description of the many attachments now available. It is safe to say that the development of these devices has been the most outstanding advance of the last few years. They have certainly converted the fork truck from a single-purpose machine to one of many uses. Indeed, some of them are so revolutionary that they have eliminated the use of pallets entirely.

New Trend in MH

This is a trend in the thinking of many materials handling engineers. If it continues, we may have to think up a new name for the pallet-fork-truck method of handling!

Forks, themselves, now are offered in a variety of shapes—each kind designed to do a particular job. The standard forks are usually four in. wide and two in. thick, in the smaller and medium capacity ranges, and five in. wide and three in. thick in the 10,000-lb class.

Most of these are rounded at the end and tapered slightly to permit easy entry into pallet openings.

Special designs include coil-handling forks, which are rounded to fit the curvature of the coil; chisel-point forks which have a level upper surface and are tapered from heel to toe; and a pulp-handling type which is just the reverse—level bottom with tapered upper surface. Forks for handling rolls of paper are tapered downward toward their ends. Then there are, of course, wider forks, and those with various kinds of ends for special jobs.

In addition to variations in the forks proper there are devices which displace the forks. Some of these do not require any actuating mechanism. Some are moved mechanically, others make use of hydraulics in their movements.

Since the early days of fork trucks, rams have been used for handling coils of wire, rope, etc. A more recent adaptation has been the use of twin rams, spaced to enter the cores of two paper rolls. They have been used very effectively in shipside operations for placing these units on stake trucks.

Plant Expansion

Trans-American Van Service, Inc., new office and warehouse, Chicago, Ill.
Hyster Co., Portland, Ore., appointment of Industrial Handling Equipment Co., Cincinnati, Ohio, as new dealer.

Flying Tiger Line, six new sales and traffic offices: Binghamton, Rochester and Syracuse, N. Y.; South Bend, Ind.; Providence, R. I., and Grand Rapids, Mich.

Trans World Airlines, new sales office, Tokyo, Japan.

Port of New York Authority, new cargo terminal and fumigation building at Port of Newark.

Olin Industries, Inc., East Alton, Ill., purchase of 665 acre site on Wabash River as possible location for new cellophane plant.

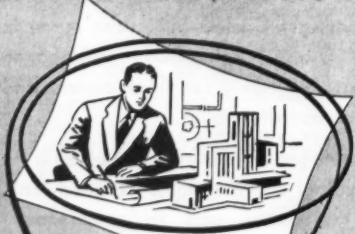
Ingersoll Products Division of Borg-Warner Corp., two new buildings for housing 18-ton capacity electric steel melting furnaces in Chicago.

ACF-Brill Motors Co., appointment of Western Tool and Manufacturing Co., Casper, Wyo., as dealer in Rocky Mountain area.

Standard Motor Freight, Inc., new terminal at Brooklyn, N. Y.

Interstate Dispatch, Inc., new freight terminal at Springfield, Ohio.

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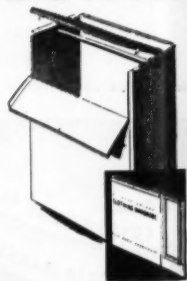
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Cranes can be attached to the front of fork trucks and are useful in handling very heavy units in a box car. Sheets of metal, too heavy for manual handling are picked up and palletized, either in the car or carried outside, and handled without being palletized.

Many different kinds of clamps or grips are available for handling such bulky units as bales. They can be used for individual packages, provided the units are such that pressure is exerted on the inside packages; thus preventing their falling out of the unit pile during transit.

In addition to the method described above for handling rolls of paper, there are special scoops and grabs which rotate, so that the product can be handled on the side or end.

Brick carriers are made up of multiple forks, which are withdrawn from the load. They eliminate the use of a pallet.

Pushers and pullers are another class of devices designed to free handling from pallets. They are used effectively in car loading operations.

Side shifters are available which permit the operator of the truck to move the unit load laterally, thus permitting him to spot it very accurately.

Fork Truck Innovations

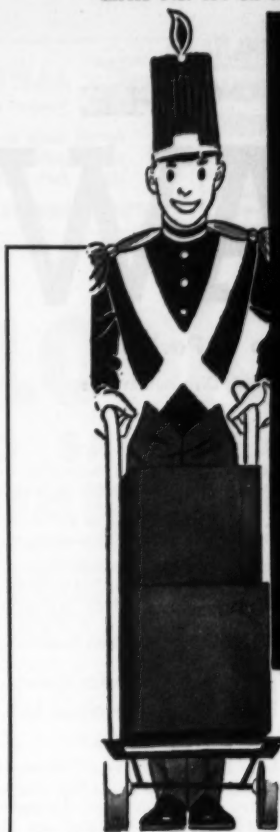
Each new materials handling show brings forth many innovations. Some of these can be recognized as being purely gadgets to attract attention, but others take their place as regular accessories.

At the recent show in Cleveland, a truck, which loads sidewise from the aisle, was introduced. It is claimed that this machine will permit operation from an aisle only slightly wider than the machine itself. Time, alone, will tell whether it is commercially practical.

The reader may have wondered why, in this discussion of counterbalanced high-lift machines, no mention has been made of those units to be used strictly with skids. The reason is that these machines are of the stacker type—they are non-counterbalanced and the next article in this series will deal with this type for handling skids, as well as those for tiering pallets. •

(Resume Reading on Page 32)

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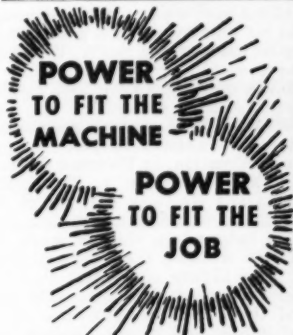
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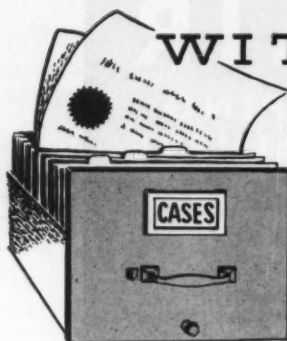
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WITHIN THE LAW

By Leo T. Parker

Legal Consultant, Distribution Age

TRANSPORTATION

A few weeks ago the writer attended a convention of motor truck operators. The following discussion represents outstanding legal questions asked by these persons, and my answers are based on leading higher court cases. Readers will do well to clip this page for future reference, as the herein citations can be used advantageously to win unavoidable suits, and will assist you to avoid expensive legal controversies.

If home owners lose sleep, can they stop truck company from night freight handling?

A reader asked this question: "Can owners of nearby dwellings stop a trucking company from loading and unloading freight at nighttime?"

According to a late higher court decision, the answer is yes, if the noises disturb the sleep of these dwellers.

For illustration, in *Malm v. Dubrey*, 88 N. E. (2d) 900, the testimony showed facts as follows: The Dubrey Trucking Co. has on its premises a building used as a freight depot for loading and unloading freight, preparatory to shipping it to its destinations. The premises are used continuously, day and night. In unloading and loading freight a heavy steel plate is used as a ramp between the trucks and the loading platform. In rolling freight over it a sharp, vibrant clang occurs which is discordant and likely to disturb seriously the rest of the neighbors. It has a repair shop in the premises, and the trucks are tested both on the premises with motors racing, and this is in the early hours of the morning when it disturbs the sleep of the nearby dwellers. The trucks in the course of repairs are hammered with heavy hammers, which also disturbs sleep.

In subsequent litigation, the higher court ordered the Dubrey Trucking Co. to conduct its business "between the hours of 12 P.M. and 6 A.M." so as to cause no noise to emanate therefrom "which interferes with the ability of" nearby owners of dwellings from sleeping between these hours. The court said:

"Noise which constitutes an annoyance to a person of ordinary sensibility to sound, such as materially to interfere with the ordinary comfort

of life, and impair the reasonable enjoyment of his habitation, is a nuisance."

This court said further:

"The defendant (Dubrey Trucking Co.) is entitled to a reasonable use of their property. It is plain, however, that it cannot be so used as to disturb the plaintiffs, who have a right to sleep at night in their own homes."

Are shippers responsible for stolen goods if trucker has received his bill of lading?

Another reader stated: "Recently our company issued a bill of lading on merchandise still on the shipper's premises. Before we picked up the goods someone stole them. The shipper claims that we are liable although he and his employees had a good opportunity to prevent the theft. We claim it was the shipper's responsibility to guard the goods until we took charge of them. Are we liable?"

According to a late higher court decision, the answer is yes.

For illustration, in *Fletcher L. Yarbrough and Company v. Texas and New Orleans Railway Co.*, 226 S. W. (2d) 257, a carrier's agent delivered a bill of lading to a shipper while the goods still were on the shipper's platform. The higher court held that the carrier exercised dominion and control of the goods by assurance of its bill of lading and it was liable to the shipper for loss of the merchandise destroyed by fire while on the platform of the shipper. The court said:

"We think it clearly appears that under the arrangements for loading, which both parties had in contemplation when the bill of lading was issued, effective at the time of the fire, a complete delivery had been made to the carrier. The carrier's liability began when the bill of lading was issued and delivered to the shipper."

Will Public Service Commission grant permit if trucking company proves public need?

Recently a reader stated in part, as follows: "What is the legal definition of the term 'public need'? We want to extend and enlarge our present route. Will a Public Service Commission always grant a permit if the trucking company proves the public need? What must we prove to get our permit?"

This is a good legal question. For the benefit of readers I shall review the latest higher court decisions which illustrate various phases of the law on this subject of "public need."

First, it is important to know that, when considering the question of public need, the Public Service Commission must take into consideration the fact that the territory is served by other carriers, and the adequacy of such service to meet the "public need."

See the leading case of *Chicago, R. I. & P. R. Co. v. State*, 126 Okl. 48. This court said:

"The word 'necessity' means a 'public need,' without which the public is inconvenienced to the extent of being handicapped in the pursuit of business or wholesome pleasure, or both—without which the people generally of the community are denied, to their detriment, that which is enjoyed by other people generally, similarly situated."

Also, see *Willis*, 67 A.L.R. 957. This court said:

"The general rule is that a certificate may not be granted where there is existing service in operation over the route applied for, unless the service is inadequate, or additional service would benefit the general public, or unless the existing carrier has been given an opportunity to furnish such additional service as may be required."

The latest higher court decision on this subject of law is *Utah Freight Lines v. Public Service Commission*, 229 Pac. (2d) 675. The testimony showed that the Utah Freight Lines filed suit and asked the court to reverse the order of the Public Service Commission granting a motor carrier permit to Ashton's Co. The counsel for the Utah Freight Lines argued that the latter company had for many years transported freight over the route and that there is no substantial evidence to support the finding that existing transportation facilities did not provide adequate or reasonable service. However, the higher court upheld the validity of the permit issued to Ashton's Co. on the grounds that there was a "public need" for additional service over the route because of inadequacy of the existing transportation facilities, by the Utah Freight Lines. The court said:

"It is apparent that there was substantial evidence upon which the Commission based its findings so it follows that under the rules set forth herein the finding should not be disturbed. The order of the Commission is affirmed."

WAREHOUSING

Can a warehouseman sell goods of a serviceman to secure the delinquent storage charges?

Recently a warehouseman asked this question: "Can a warehouseman sell goods to secure delinquent storage charges, if such goods belong to a soldier or sailor? We have a suit pending because our warehouse company sold stored goods belonging to a soldier when not knowing he was in the army. Please cite references for the benefit of our lawyer."

(Please Turn to Page 92)

and Firms are Arranged Alphabetically

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... Cuts Handling Costs

(Continued from Page 33)

ing line from production. Control boxes are waist high and buttons are arranged in the sequence most often used. A foot pedal controls an air brake which can stop the flow of cartons to the sealer. One sealer has a second set of pedals to control the spur conveyors for to control the spur conveyors.

The sealer system also has several automatic controls, or regulators. When cartons back up on the lines coming from production, limit switches automatically stop selected belt sections to permit cartons to accumulate on the gravity sections preceding the belts. Similarly, the belts start again automatically when the lines begin to clear.

When cartons leave the sealers they go directly to the warehouse and are removed and placed in storage. The warehouse conveyor is "U" shaped and enables two men to work with a minimum of extra walking and crossing over conveyors. When cartons are to be shipped they are taken from storage and placed on a belt conveyor running under the conveyor coming from the sealers.

Conveyor Height

The gravity conveyor from the sealer is 5 ft 4 in. high and the belt conveyor underneath is 2 ft 3 in. high. The shoulder-high gravity conveyor is at a convenient

height for unloading and the belt conveyor is at a convenient height for loading. The belt conveyor leads to the shipping platform and discharges onto a gravity conveyor which ends at a box-car door. Cases are removed at shoulder height, being released individually by simple foot pedal.

Formerly, sealing was done manually at each of the four lines coming from production. Cartons were sealed in the order received and consequently were intermixed by product when sent to the warehouse. The new system dispatches cartons to the warehouse in batches of 10 to 20 equal size cartons of the same product. This makes them faster and easier to warehouse and consequently cuts warehousing costs.*

(Resume Reading on Page 34)

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... Facing Warehouse Industry

(Continued from Page 37)

fense, superimposed on the expanded domestic economy, will continue for some time to create increasing demands for general merchandise storage capacity.

Refrigerated Needs

"In regard to refrigerated facilities, perishable foods are one of the major requirements of the military as well as the civilian economy, and the proper storage thereof is recognized as essential to the defense program. Cooler space presents no real problem.

"Available freezer space, however, is in short supply in certain areas and, with a nationwide year-end occupancy rate of approximately 83%, the long-range occupancy trend appears to be still upward.

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"In the encouragement of your industry to meet the needs for warehousing facilities, we have four basic programs.

"First is the expansion loans program under Section 302 of the Production Act.

"The second and most frequently used incentive program is by accelerated tax amortization under certificates of necessity. DTA has considered 235 applications covering warehousing facilities, of which 141 have been approved to the extent of approximately \$29,800,000, and 94 cases have been denied.

"The third is the approval of construction applications and the allocation of controlled materials for building projects.

"The fourth item respects credit controls. DTA was one of the first agencies to urge the Federal Reserve Board to amend Regulation X to permit exceptions to the 50% collateral value requirement on the financing of construction of certain types of facilities. While this exception has been used sparingly by DTA, the exemption provision is available for warehouse projects.

"In reviewing the activities of ODT during the last war, I have been impressed by the spirit of cooperation displayed by your industry.

"ODT's delegated authority did not include the power of allocation of warehouse space, and its responsibility was limited to a planning and advisory capacity. It is to the everlasting credit of your industry that you gave unstintingly and voluntarily of your time and effort to the end that the requirements of both government and industry were fulfilled.

"While DTA now is vested with considerably more authority than ODT, it is the fervent hope of all of us in DTA that confining restrictions and orders will not be necessary in the present emergency.

"It is by a spirit of cooperative enterprise, cementing every crevice in the bulwarks of our national defense, that America has weathered the crises of the past. In the same manner will she withstand and surmount the pressures and perils of the future." •

(Resume Reading on Page 37)

CHICAGO, ILL.

Member: N.F.W.A.
Allied Van Lines

**SERVING CHICAGO & SUBURBS FOR
OVER 49 YEARS**

Consign Your Shipments to
JOYCE BROS. Stge. & Van Co.
6428 N. Clark St., Chicago 26
ROgers Park 4-0833—Teletype CG-2196

JOYCE

CHICAGO, ILL.

62 Years of Reliable Service

LINCOLN MAYFLOWER WAREHOUSES
Coast to Coast
4251-59 Drexel Blvd. Chicago 15, Ill.
Storage—Packing—Shipping
Local and Long Distance Moving



MIDLAND

In Chicago, Illinois

A complete warehouse organization fully equipped to handle merchandise rapidly and economically with convenient locations for local trade and excellent transportation facilities for national distribution. Chicago Junction In and Outbound Union Freight Station—direct connections with thirty-eight railroads. Receiving Stations for Railroads, Express and Truck Lines on premises.

*Inquiries Invited on Storage,
Office and Rental Requirements*

MIDLAND WAREHOUSES, INC.
1500 S. WESTERN AVE.
CHICAGO 8, ILL. • CANal 6-6811



CHICAGO, ILL.

Close to the Loop District, these two co-operated warehouses offer quick, efficient and economical service to stores and distributors in Chicago and the Mid-West.

PRODUCERS WAREHOUSE CO.

344 No. Canal St. (6) C. & N. W. Ry.

THOMSON TERMINALS INC.

346 W. Kinzie St. (10) C. M. St. P. & P. R. R.

Prompt Deliveries

Advances Made

Washington DA

(Continued from Page 15)

gress is having a tough time chopping the necessary \$10 billion from the budget in order to balance it—because a substantial portion would have to come from defense programs, leaving the way open for the sales tax proponents to get in their licks by next year.

New Truck Production

Chances are looking up for a truck production this year of better than one million new vehicles. Defense Transport Administration has put in

claims to Defense Production Administration for enough fourth quarter materials to make 290,000 trucks and tractors, 110,000 truck bodies, and 16,000 truck trailers. Possibility is that this quantity will be okayed.

New Marine Warehouses

Construction will shortly get underway on eight new warehouses at the Marine Corps training base at Camp Pendleton, California. They will be one-story, permanent type buildings, each providing 45,000 sq ft, thereby adding a total of 360,000 sq ft to the Pendleton storage space. About \$8,000,000 is to be spent on the project including rail spurs, loading platforms, and materials handling facilities. This will bring total Marine storage expansion expenditures for 1952 to \$25,000,000.

Capitol Trends

Blueprints have come from Air Force drawing boards for building the biggest hangars ever designed. . . . They are intended to handle any planes now

in production or planned . . . Biggest building will be 250 by 600 ft. . . . No construction plans have been announced, however.

. . . Mutual Security Agency (formerly ECA) is okaying small but fairly constant purchases of American-made handling equipment for shipment abroad . . . Recent typical approvals: 20 forklifts, one crane and 49 tons of wire and manila rope for a Formosan port.

Government officials say there must be considerable expansion of these types of facilities: refrigerated space, grain storage, and tank storage . . . General storage space is growing shorter but is not so urgent.

. . . Belting duck is in adequate enough supply that most export restrictions have been lifted . . . Same is true for burlap.

. . . Quartermaster Corps has quit packaging gelatin dessert in 5-lb tin cans, preferring 24-oz size paper-board, which is claimed to save \$40,000 a year.

. . . Army's Transportation Corps reports that it moved 126,788,000 tons of cargo during World War II.

—DA—

Got A Minute To Spare???

Chances are that's all you've got to spare these hurry-up days. That's why you should take advantage of the Reader Service Card facing Page 42 in this issue of DA.

and Firms are Arranged Alphabetically

NEW ORLEANS, LA.

New Orleans Merchandise Warehousemen's Ass'n

MALONEY TRUCKING & STORAGE, Inc.

133 NORTH FRONT ST., NEW ORLEANS 1

An Able servant to the PORT OF NEW ORLEANS
Complete warehousing facilities—Distribution—Weighing—
Forwarding—Fumigating—Storage—Cartage—Field Ware-
housing—Office Space—Display Rooms—Sprinklered Risk.
UNITED SWAGES AND SWAGE BONDED



NEW ORLEANS, LA.

Member of A.W.A.

ORLEANS STORAGE COMPANY, INC.

725 So. Liberty Street

Specializing in MDSE. Distribution

All concrete Warehouse, sprinklered, low insurance rates. Low
handling costs. Switching connections with all rail lines. State
Bonded. Inquiries Solicited.

NEW ORLEANS, LA.

L. A. Kloor-E. J. Kraft, Owners

STANDARD WAREHOUSE COMPANY

100 Poydras St. - New Orleans 8, La.

MERCHANDISE STORAGE—POOL CAR DISTRIBUTION

Located in the Heart of the Wholesale District • Conven-
ient to Rail & Truck Depots • Private Switch Tracks T &
NO-SP RR • Reciprocal Switching
COMPLETE WAREHOUSING SERVICE



SHREVEPORT, LA.

Herrin Transfer and Warehouse Co., Inc.

1305 MARSHALL ST., SHREVEPORT, LA., P. O. BOX 1606

COMPLETE DISTRIBUTION SERVICE

Member

American Warehousemen's Association
Southwestern Warehouse & Transfermen's Association

BANGOR, MAINE

McLAUGHLIN WAREHOUSE CO.

Established 1875

Incorporated 1918

General Storage and Distributing

Rail and Water Connection—Private Siding

Member of A.C.W.—A.W.A.—N.F.W.A.

BALTIMORE, MD.

C. M. Wrightson, Mgr. & Treas.

CAMDEN WAREHOUSES

Rm. 301, Camden Sta., Baltimore 1

Operating Terminal Warehouses on Tracks of

The Baltimore & Ohio Railroad Co.

A. D. T. Private Watchman, Sprinkler

Storage—Distribution—Forwarding

Tobacco Inspection and Export—Low Insurance Rates

Consign Via Baltimore & Ohio Railroad

BALTIMORE, MD.

Complete Warehousing Services



A.W.A.
N.F.W.A.
M.W.A.
M.N.T.A.
A.T.A.



6301 Pulaski Hwy.
Broadway 7900
Teletype BA 498

DAVIDSON
TRANSFER & STORAGE CO.

Member AMERICAN WAREHOUSEMEN'S ASSOCIATION

BALTIMORE, MD.

MEMBER: I.M.W.A.—M.F.W.A.—M.N.T.A.—H.N.C.C.—A.T.A.

J. NORMAN GEIPE VAN LINES, INC.

524-536 W. Lafayette Ave., Baltimore 17, Md.

See our advertisement on page 163—
1949 edition of D and W Directory

BOSTON, MASS.

Owned and Operated by Merchants Warehouse Co.

CHARLES RIVER STORES

131 BEVERLY STREET—BOSTON 14, MASS.



Located within the city limits, adjacent to
North Station. Brick-and-concrete buildings;
300,000 sq. ft. space, some sprinklered and
heated. A. D. W. burglary alarm service, U. S.
Customs and Internal Revenue bonded space.
Boston & Main R. R. delivery.

BOSTON, MASS.

Established 1896

PACKING

MOVING

D.W. **DUNN** CO.

STORING

SHIPPING

Member: MayWA-MassFWA-CanWA

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BOSTON, MASS.

FITZ WAREHOUSE CORPORATION

operating

ALBANY TERMINAL STORES

137 Kneeland Street, Boston 11

GENERAL MERCHANDISE STORAGE

B. & A. R.R. Delivery

BOSTON, MASS.

STORAGE

Wool, Cotton and General Merchandise
INDUSTRIAL SPACE FOR LEASE
IN UNITS TO SUIT TENANTS



LOCATION: Near but outside congested part of city. Ob-
viates costly trucking delays. Overland express call.
STORAGE: For all kinds of raw materials and manufac-
tured goods in low insurance, modern warehouses.

RAILROAD CONNECTIONS: Boston & Maine R. R. sid-
ings connecting all warehouses at Mystic Wharf. New
York, New Haven & Hartford sidings at E St.

DISTRIBUTION: Complete service for manufacturers dis-
tribution whether from storage or pool cars. Trucking
to all points in Metropolitan District.

LEASING: Space in units of 2,000 to 40,000 ft. on one
floor for manufacturing or stock rooms at reasonable
rentals on short or long term leases.

DEEP WATER PIERS: Excellent piers for cargoes of
lumber and merchandise to be landed and stored in
connecting warehouses.

WIGGIN TERMINALS, INC.

Boston 29, Mass.

Tel. Charlestown 0880



Member AMERICAN WAREHOUSEMEN'S ASSOCIATION

BOSTON, MASS.**Hoosac Storage & Warehouse Company**

Lechmere Square, East Cambridge 41, Boston

FREE AND BONDED STORAGE

A.D.T. Automatic Fire Alarm
Direct Track Connection B. & M. R. R.
Lechmere Warehouse, East Cambridge, Mass.
Hoosac Stores, Hoosac Docks, Charlestown, Mass.
Warren Bridge Warehouse, Charlestown, Mass.

SPRINGFIELD, MASS.

Member of A.W.A.—M.W.A.

ATLANTIC STATES WAREHOUSE AND COLD STORAGE CORPORATION

385 LIBERTY ST., SPRINGFIELD 1

General Merchandise and Household Goods Storage. Cold Storage for Butter, Eggs, Poultry, Cheese, Meats and Citrus Fruits
B. & A. Sidings, and N. Y., N. H. & H. R. R. and B. & M. R. R.
Daily Trucking Service to suburbs and towns within a radius of fifty miles.

SPRINGFIELD, MASS.


HARTFORD DESPATCH
Hand WAREHOUSE CO., Inc.
214 Birnie Ave., Springfield, Mass.

U. S. Customs Bonded Warehouses—Terminals • Daily Distribution in Conn. and Mass.
Private Sidings • Pool Distribution • Members: A.D., Inc.—ACW—AWA

SPRINGFIELD, MASS.

Max Lyon, Pres.

NELSON'S EXPRESS & WAREHOUSE CO., INC.

Merchandise Storage—Pool Car Distribution
Fleet of Trucks for local delivery.

93 Broad St.
Springfield, Mass.

Telephone
6-8334—6-8335

SPRINGFIELD, MASS.

General Cold Storage

Pioneer Valley Refrigerated Warehouse, Inc.

P. O. Box 155

Brightwood Station

Whee: steel & concrete, automatic fire & burglar alarms—ADT. TBAren 1,000,000 cu. ft. Fl Ld 350 lbs. Cl Ht 8-10 ft. Elev cap 6,000 lbs. Priv siding 50-car cap on 2 consign shipments via B&M; sta. Brightwood; free switching. 100% palletized. Temp. range —10° to 40°. Humidity control. 15-th. dock. Specialize in frozen foods. Open yard steps. Dr. office facilities. Loans on stored commodities. Printed tariff.

Member of the A. W. A. (Cold Storage Div.)

SPRINGFIELD, MASS.**J. J. SULLIVAN THE MOVER, INC.**

Fireproof Storage

Offices: 385 LIBERTY ST., SPRINGFIELD 1

HOUSEHOLD GOODS STORAGE, Packing,
Shipping. Pool Car Distribution of All Kinds
Fleet of Motor Trucks

DETROIT, MICH.

*Facing the Busiest
Thoroughfare in*

DETROIT

200,000 square feet, Centrally located. Private siding facilities for 20 cars with free switching from all railroads. Large, enclosed loading dock. Our own fleet of trucks make prompt reshipment and city deliveries.

JEFFERSON TERMINAL WAREHOUSE

1900 E. Jefferson Ave.

DETROIT 7, MICHIGAN

... Cited As Key Legislation

(Continued from Page 35)

shipped goods, the legal responsibility of a private carrier is only where the testimony shows that it failed to use "ordinary" care to safeguard the goods.

Legally, a common carrier is any carrier, whether a railway company or motor transport, which holds itself out to the public as being ready to transport goods for all who demand the service. A private carrier is one who transports goods for only selected or a few persons or firms.

Therefore, many higher courts hold that the owner of a motor truck whose business is transporting merchandise exclusively for one or a few shippers is a private carrier. See *Zell v. Industrial*, 65 Pac. (2d) 1429. Here it was shown that a truck company transports products for customers it wants to haul for and refuses to haul for all others. In holding the company a private carrier, the court said:

"A common carrier serves the

general public . . . The truck operator here offered no such program of service as he only served those with whom he had pre-existing contracts. He is a 'contract carrier.'"

Section 54 of the Uniform Sales Act explains under what circumstances an unpaid seller has a lien on shipped merchandise to secure payment. This section provides that the seller has a lien: (1) if the goods were sold without a credit agreement; (2) if the

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Try us and see, just fill out the Reader Service Card facing Page 42 and see how quickly it brings you further details on items in which you're interested.

terms of credit specified in the contract of sale have expired; (3) if the buyer becomes insolvent; (4) if the seller had possession of the goods.

Section 53 of the Uniform Sales Act provides that a seller may stop goods in transit if he knows or learns that the buyer is insolvent. This section is applicable although the title to the goods passed to the purchaser on delivery of the goods to the carrier, as when goods are shipped f.o.b. the seller's location. However, contrary to the belief of a majority of persons, this section does not afford the seller the right to regain legal title to the merchandise.

In 1919, the District United States Court established law, and other courts since have followed the law, that if a seller ships goods f.o.b. the seller's location, and therefore parts with legal title to the goods, he may stop the goods during transit if he learns that the purchaser is insolvent but the purchaser still retains title to the goods.

(Please Turn to Page 81)

and Firms are Arranged Alphabetically

KANSAS CITY, MO.

CHARLES C. DANIEL, Jr., Pres. & Treas.

MERCHANDISE WAREHOUSING and DISTRIBUTING BRANCH HOUSE FOR FACTORIES POOL CAR DISTRIBUTION



Over 70 YEARS "The Symbol of Service"

CENTRAL STORAGE COMPANY has been serving distributors of merchandise (since 1880) longer than any other public merchandise warehouse in Missouri. There is no real substitute for experience. Our methods are standing the test of time and practical usage. New methods and equipment are being employed and still newer ones will be adopted as their use becomes practical in better serving our customers.

Tel.: VICTOR 3268

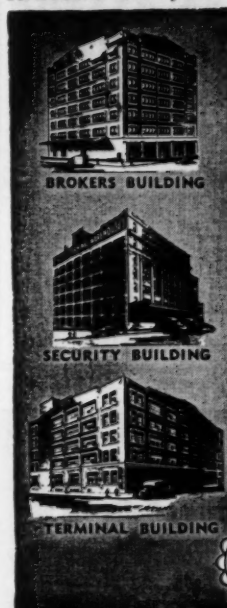
CENTRAL STORAGE COMPANY

1422 ST. LOUIS AVENUE (West 10th St.)
KANSAS CITY 7, MISSOURI



Represented by DISTRIBUTION SERVICE, INC.
New York—Chicago—San Francisco

KANSAS CITY, MO.



3 Choicely Located Warehouses in KANSAS CITY

To Insure Efficient and Economical
Coverage of this Great Marketing Area

CHECK THESE ADVANTAGES

Modern Facilities
Responsible Management
Spacious Switch Tracks
Ample Truck Loading Doors
Streamlined Handling Equipment
Our Own Fleet of Motor Trucks
Cool Rooms
Storage in Transit
Office Space and Display Rooms
Financing

ALL BRANCH HOUSE FUNCTIONS INCLUDING:

Receiving
Storing
Weighing
Marking
Reconditioning
Freight Prepayments
Shipping
C.O.D.
Sight Drafts
Inventories
Pool Cars Distributed

It costs you nothing to
Investigate Crooks
Terminal facilities.
Phone, wire or write us
regarding your needs.



Crooks Terminal Warehouses, Inc.

1104 UNION AVE., KANSAS CITY 7

Chicago 7—433 W. Harrison St. New York Office 16—271 Madison Ave.
Associated with Overland Terminal Warehouse Co., 1907 E. Olympic Blvd., Los Angeles 2
Members of the American Warehousemen's Association and Interstate Terminal Inc.

... Key Legislation

(Continued from Page 78)

In this case the higher court held that while the right to stop delivery of goods sold on credit is predicated on insolvency of the buyer, yet neither insolvency nor bankruptcy of the buyer works a rescission of the original purchase contract. Therefore, stoppage of merchandise in transit does not annul or cancel the sale contract nor divest the purchaser of legal title to the goods which may have passed on delivery of the merchandise to the carrier.

This court also held that although a buyer is or becomes insolvent and the legal title to the merchandise has passed to the purchaser, the seller may stop the goods during transit but the seller cannot regain legal title to the goods although he has a lien on the goods to secure the purchase price.

On the other hand, this court established the law that when a carrier places a car containing merchandise on a siding or side

track, designated in the bill of lading, the transit is finished and the seller has no legal right to stop the merchandise from being delivered to the purchaser, and the seller has no greater nor prior rights than other common creditors of the insolvent purchaser.

Section 53 of the Act relates specifically to "unpaid" sellers. The higher courts consistently hold that an "unpaid" seller is one who has not received payment for the goods, or who has not been offered or tendered the full con-

DA Time Saver — Reader Service Card

When you make use of the Reader Service Card (facing Page 42) you get all the dope, and in a hurry, thereby saving yourself valuable time and effort.

tract price. Also, when the goods are sold under a conditional contract of sale, the seller is deemed by law to be an unpaid seller if the testimony shows that the purchaser breached his obligations by a failure to make even a single installment payment when due. Also, a seller is unpaid if the purchaser makes a void payment, as a bank check not honored by the bank on which it is drawn. See Taylor, 212 N.Y.S. 133; United, 175 N.Y.S. 177; and Smith, 230 N. W. 847.

A lien under Section 53 of Uniform Sales Act on merchandise is not nearly so broad nor effective as a lien secured by a chattel mortgage. This is so because a properly recorded mortgage is effective as to all persons in all cities, counties, and states in the United States without any notice to such persons, whereas a lien for unpaid balance on the purchase price of merchandise now in possession of the buyer is limited and in many instances rendered void by superior liens on the goods. •

(Resume Reading on Page 35)

KANSAS CITY, MO.

Teletype: KC-248

Telephone: Victor 8787

MERCHANDISE WAREHOUSING

We own 300,000 sq. ft. of space

Sprinklered Building
Central Alarm System
Pool Car Distribution
Branch Office Facilities

OWN AND OPERATE OUR OWN CARTAGE COMPANY

JACOBS WAREHOUSE CO., INC.

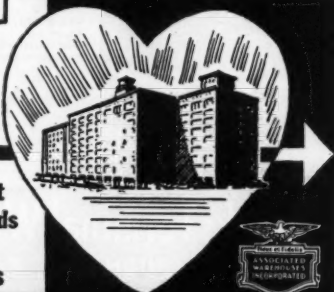
Executive Offices:
1328-30 W. 12th St.

Kansas City 7, Mo.

KANSAS CITY, MO.

Storage and
Distribution through
the "Heart of
America"

400,000 Square Feet
Trackage on 4 Railroads
TRUCK DOCKS...
Low Insurance Rates



KANSAS CITY TERMINAL WAREHOUSE CO.
ST. LOUIS AVE. & MULBERRY ST. KANSAS CITY 7, MO.

For Shippers' Convenience, States, Cities

KANSAS CITY, MO.

COMPLETE WAREHOUSE FACILITIES

for the proper Storage
and Distribution of your
Merchandise in the Kansas City trade area.

POOL CAR DISTRIBUTION

We invite your Inquiries



Represented by

ALLIED DISTRIBUTION INC.
201 S. MICHIGAN AVE.
CHICAGO 4, ILL. 60601

NEW YORK 18
11 WEST 40th ST.
NEW YORK 18, N.Y. 10018

MIDWEST TERMINAL WAREHOUSE CO.

2020-30 Walnut Street, Kansas City 8, Mo.

Owned and Operated by the ST. LOUIS TERMINAL WAREHOUSE CO., ST. LOUIS, MO.

ST. LOUIS, MO.

ST. LOUIS

Over 60 Years of Service. Largest Fireproof Warehouse
in the St. Louis Area.



GENERAL VAN & STORAGE CO.

Delmar at Euclid, St. Louis 8, Phone Forest 4300
Agents for Allied Van Lines, Inc.
Member National Furniture Warehousemen's Ass'n.



ST. LOUIS, MO.

for
conscientious
handling of
fine furniture



Agents for Allied Van Lines, Inc.

Ben Langan

Storage & Moving

5201 DELMAR BLVD., ST. LOUIS 8

... Cut Distribution Costs

(Continued from Page 39)

very important part of selling. But making small shipments by less-than-carload freight from the factory is expensive. Usually, the answer is the establishment of spot stocks from which these small-order deliveries can be made at the least expense and in the quickest time.

In some cases, it has been found that the carrying of such stocks in public merchandise warehouses costs very little because of the savings in the difference between rates for carloads shipped to the warehouse and LCL shipments to customers which would otherwise have to be made. Thus, storage frequently reduces the costs of transportation; for wherever less-than-carloads can be consolidated into carloads, even for a part of a total journey, a saving results.

Frequently, public warehouse organizations act in branch-house capacities for manufacturers, doing practically everything that the

manufacturer himself could do in the physical distribution of his products.

The use of a system of spot stocks means that a manufacturer's market is always supplied with goods which have been placed at their approximate sales destination before the sale had been made to the wholesaler or retailer. This means that wholesalers or retailers always have goods either on hand or easily obtainable within a few hours. This prevents them from being out of stock and avoids consequent lost sales and substitutions, through which old and regular users of a product may become permanently lost as customers.

The availability of merchandise reduces the need for consignment selling and large open accounts are avoided when wholesalers and retailers can obtain goods upon short notice. Finally, orders come to the warehouses and stocks are depleted more nearly as the goods are sold

by the wholesaler or retailer, rather than on their estimates as to the future demand.

Reduce Transportation Costs

General merchandise warehouses are used by manufacturers to reduce transportation costs by taking advantage of both through freight rates and carload rates. Sometimes to achieve a carload rate a pool or consolidated car is used, but even here the public warehouse may be involved.

Pool cars are sent by one shipper to general warehouses at central points for distribution to the various consignees whose shipments are included in the car. Consolidated cars, made up of the shipments from several shippers, are consigned to a public warehouse for distribution to any number of consignees in a locality.

In addition to the actual savings in freight charges, there is also a considerable saving of time in shipping by carloads to public warehouses for distribution, since delays in transit, to which LCL

(Please Turn to Page 84)

DISTRIBUTION AGE

and Firms are Arranged Alphabetically

Member AMERICAN WAREHOUSEMEN'S ASSOCIATION

ACCURATE

USE **LONG SERVICE**
from shipper to market

ACCURATE:
in taking your order; in following your instructions; in furnishing a careful accounting—that's Long Warehouse service!

S. N. LONG WAREHOUSE
ST. LOUIS... The City Surrounded by the United States

ST. LOUIS, MO.

Merchandise Storage and Distribution.

RUTGER STREET WAREHOUSE, INC.

MAIN & RUTGER STS., ST. LOUIS 4
A.D.T. Burglar & Sprinkler Alarms.
200,000 Sq. Feet of Space
BONDED Low Insurance

Track Connections with All Rail and River Lines

Offices: Member
New York
Murray Hill 9-7446
Chicago
Randolph 6-4457

ST. LOUIS, MO.

Established 1918

SLOAN'S

Moving & Storage Co.
5619 Delmar Blvd., St. Louis 12, Mo.
Modern in every department
"In St. Louis Sloan's Service"
Exclusive St. Louis Agent Aero Mayflower Transit Co.

ST. LOUIS, MO.

Established 1912

NOTICE—To Traffic Managers

We specialize in storage of candies in our new automatic temperature and humidity controlled rooms.

As well as general warehousing and cold storage—also pool car distribution and forwarding—Insurance 16.2c. per \$100.00.

Tyler Warehouse & Cold Storage Co.
200 Dickson St. St. Louis, Mo.

Members: A.W.A.—Mo.W.A.—St.L.M.W.A.
St. Louis Chamber of Commerce

ST. LOUIS, MO.



"Serving industry for twenty-six years"

OVER 1,000,000 Sq. Ft. of WAREHOUSE Space

Located right in the midst of business

Plus FAST

and EFFICIENT DISTRIBUTION in the ST. LOUIS AREA

Complete Facilities

Pool car distribution
Reforwarding storage in transit
A.D.T. Alarms and sprinkler systems
Traffic and legal depts. Bonded employees



ST. LOUIS TERMINAL WAREHOUSE CO.

General Offices • 825 Clark Ave. • St. Louis 2, Mo. • MA in 4927

CHICAGO OFFICE
53 West Jackson (4)
Harrison 7-3688

NEW YORK OFFICE
250 Park Avenue (17)
Plaza 3-1235

Member AMERICAN WAREHOUSEMEN'S ASSOCIATION

SPRINGFIELD, MO.

Agent: ALLIED VAN LINES, Inc.

GENERAL WAREHOUSE CORP.

601 N. National Ave., Springfield, Mo. Phone 4-1855—TWX—S015
MERCHANDISE AND HOUSEHOLD GOODS STORAGE
POOL CAR DISTRIBUTION

We Specialize in Transit Storage
Member AWA, NFWA, MOWA, ACW

Chicago Office New York Office
53 W. Jackson (4) Harrison 7-3688 250 Park Ave. (17) Plaza 3-1235

BILLINGS, MONT.

Established 1904

BRUCE COOK TRANSFER & STORAGE COMPANY
Complete Facilities for Storage of Merchandise and Household Goods

Stop in Transit and Pool Car Distribution
Warehouse Dock and Terminal for Five Truck Lines
Private Sliding
Agents for Aero Mayflower Transit Company
Member Mayflower Warehousemen's Association
P. O. Box 1382 — 2801 Minnesota Avenue
Billings, Montana



HASTINGS, NEBR.

1876

1952



BORLEY'S
Storage & Transfer Co., Inc.
Pool Car Distribution
FIREPROOF BONDED
STORED OR SHIPPED

LINCOLN, NEBR.

1889 63 Years of Continuous Service 1952

Merchandise and Household Storage—Pool Car Distribution
We operate Thirty Trucks and have connections to all points in the State.
Our buildings are clean, both Fire and Non-Fireproof, located on the lines of the C. B. & Q.—Mo. Pacific and Union Pacific with all other lines entering either city, absorbing switching.
We are Bonded by the State—Our Rates are reasonable. We solicit your business and guarantee satisfaction. Investigation invited.

SULLIVANS

Transfer & Storage Co. Grand Island Storage Co.
Lincoln 8, Nebr., 301 N. 8th St. Grand Island Nebr., 311 W. 4th St.

OMAHA, NEB.

FORD
STORAGE & MOVING COMPANY
1024 Dodge Street Omaha 2, Nebraska
Omaha's most modern, centrally located warehouse. Fireproof construction—Fully sprinklered—Low insurance. Sidings on I.C. R.R. and U.P. R.R. U. S. Customs Bond. General Merchandise—Cooler Storage—Household Goods Storage. Also operate modern facilities in Council Bluffs, Iowa. Our own fleet of trucks for quick deliveries.
Member of N. F. W. A. and A. W. A.
Represented by
CHICAGO 314 E. MONROE AVE. NEW YORK 12 11 WEST 43RD ST.
WABack 5-3267 BELLE DISTILLATION INC. PLAZA 8-8972

OMAHA, NEB.

GORDON
Storage
Warehouses, Inc.
Merchandise and Household Goods
Four modern, sprinklered warehouses, located on truckage. We handle pool cars, merchandise and household goods. Trucking Service. Let us act as your Omaha Branch.
Main Office, 702-12 So. 10th St., OMAHA 8, NEBR.
Members: A.W.A.—N.F.W.A. Agents for Allied Van Lines, Inc.
Member NATIONAL FURNITURE WAREHOUSEMEN'S ASSN.
Agent ALLIED VAN LINES, INC.

SCOTTSBLUFF, NEB.

Phone: Scottsbluff 94 118 East Overland
RAYMOND BROS. CLARKE CO.
LICENSED AND BONDED WAREHOUSEMEN
FIREPROOF — BRICK & CONCRETE — SPRINKLERED — LOW INSURANCE
STORAGE & CARLOAD DISTRIBUTION OF ALL KINDS
PRIVATE SIDING — CB&Q R.R. — FREE SWITCHING — TRANSIT STORAGE
"BETTER WATCH WESTERN NEBRASKA"

... Distribution Costs

(Continued from Page 82)

freight is subject, are avoided.

The use of public warehouses, also, frequently eliminates unnecessary trucking charges as goods move from railroad cars spotted on warehouse sidings into storage at a lower handling cost. Customers may also participate in the free switching and trap or ferry-car services offered by railroads to large shippers and receivers of LCL freight such as the warehouses. In this way charges for demurrage, loading, and unloading, as well as cartage, are reduced.

Special Privileges

Storage-in-transit is one of the many special services and privileges granted to shippers by the railroads. Generally speaking, these transit services allow the stoppage of a shipment somewhere along its route without sacrificing the through railroad rate in effect from point of origin to final destination. All the transit services

and privileges, such as fabrication-in-transit, milling-in-transit, and manufacturing-in-transit, imply storage for a certain period as part of the processing.

There is the distinct privilege of storage-in-transit, which applies to many products and which facilitates their marketing. Under this privilege the producer or other distributor can store goods at convenient transit points for distribution later. Railroads issue tariffs covering the storage-in-transit services, a charge is frequently made over and above the protected through-freight rate. The important point is that the public warehouses of the country offer facilities for taking advantage of such railroad privileges and services.

Something closely akin to storage-in-transit is the use by manufacturers of the stopover car. In such cases part of the carload of goods is shipped to fill a customer's order. To take advantage of a sav-

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MEMBER—A.W.A.; N. J. Motor Truck Assoc.; Whse. Assoc. Port of N.Y.A.

ing in the freight rate, however, the car is loaded to capacity and stopped at a public warehouse in the territory where the customer is located. The surplus is then unloaded and stored with the manufacturer's stock already held in the warehouse until it is needed by a customer.

The owners of goods stored in transit often find it easier and cheaper to finance them than if they were held at the factory. Producers in small towns sometimes find that borrowing is difficult because of limited banking facilities. This difficulty is not always overcome by the establishment of a field warehouse because their products are still far from effective consumption points and commercial centers.

Through railroad in-transit arrangements these producers have found financing much easier by shipping to central markets, storing their products in transit, and using warehouse receipts at banks in the larger cities.*

(Resume Reading on Page 39)

DISTRIBUTION AGE

and Firms are Arranged Alphabetically

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... see Page 24

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Within the Law (Continued from Page 64)

Broadly speaking a warehouseman is liable if he sells stored goods which belong to a person in military service unless the warehouseman obtains consent of a court to sell the goods. This law is applicable from the moment the owner of the goods receives notice to report for military service, and for three months after he is discharged from service. Here are brief references for use of warehousemen and lawyers.

See Sections 302 to 532 of the United States Statutes. Appendix sections 107, 517 provide that if a person in military service signs a contract AFTER he is in service giving the warehouseman authority to sell his goods, such contract is valid.

Generally speaking, a warehouseman must file suit and allow a court to decide, under ordinary circumstances, whether he can sell the stored goods to secure overdue charges. See Section 531. If a soldier is financially able to pay, the court will order him to make payment. See Section 531. In

other words, the laws are not intended to protect servicemen who can and are able to pay. If he cannot pay, the court may (1) Stay proceedings or, (2) make any other reasonable disposition of the case. The warehouseman's penalty for violating any of these laws is one year imprisonment or \$1,000 fine. See Section 535. Section 302 of Act or 532 of Appendix. Also, the owner of the goods may sue and recover damages from the warehouseman.

The warehouseman is not liable if the testimony shows that the serviceman knew of the sale and made no objection (142 N. E. 41). However, the only good plan for warehousemen to adopt is to foreclose or sell stored goods belonging to servicemen under order of a court. See Mouse, 123 N. E. (2d) 780. The fact that a warehouseman does not know that goods on which charges are long overdue belong to a serviceman does not excuse him for selling the goods without a court order. As above mentioned a

contract is valid under which a serviceman agrees and authorizes a warehouseman to sell his goods for delinquent charges.

**MERCHANDISING AND
DISTRIBUTION**

If manufacturer labels product "Imitation" and uses pure ingredients, he has violated law

Recently a reader wrote an interesting letter as follows: "Is it legal for a manufacturer to sell food products truthfully labeled as 'Imitation'? If a manufacturer labels his food product 'Imitation' and uses pure ingredients does he comply with the Federal Food, Drug and Cosmetic Act?"

According to a late higher court decision, the answer is no unless the manufacturer follows certain standards. For instance, the definitions and standards of fruit jams established by the government provides that fruit jams shall be composed of not less than 45 parts of fruit to each (Please Turn to Page 99)

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Within the Law

(Continued from Page 92)

55 parts of one of the designated saccharine ingredients, and that the soluble solids content of blackberry, strawberry and grape jam be not less than 68 per cent, and of apricot, peach and plum jam, not less than 65 per cent.

Hence, a food product which does not comply with government standards is considered misbranded, although it contains pure ingredients and also the product is truthfully labeled "Imitation."

For example, in United States v. 62 Cases, 183 Fed. (2d) 1014, the testimony showed facts as follows: The government seized and condemned

62 Cases of jam. Each case contained six jars of jam, assorted flavors. The jams were labeled "Imitation Jam" with the name of the fruit used. Also on the label there appeared the following: "Made from 55 per cent sugar, 25 per cent fruit, 20 per cent pectin, citric acid, 1/10 of 1 per cent benzoate of soda."

The government proved that many hotels and restaurants served the jams to their patrons who had no opportunity to see the containers labeled "Imitation Jam." Also, retail grocery stores advertised such jams as fruit jams, and in response to telephone calls from housewives, asking

for the advertised jams, filled such orders with the product here involved. These jams looked like and tasted like fruit jam, and are wholesome and have food value.

The higher court held the seizure and condemnation of the jams valid and legal, saying:

"They are not imitation fruit jam. We think the undisputed facts show that they purported to be, and were represented to be a fruit jam, for which a definition and standard of identity had been prescribed. We conclude that the jams under seizure were represented to be fruit jams for which a definition and standard of identity had been promulgated; that they did not conform to the definition

(Please Turn to Page 100)



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INDEX TO GENERAL ADVERTISERS

A
American District Telegraph Co. 4
Automatic Transportation Co. 9

B
Baker-Raulang Company 1
Branch Motor Express Co. 2
Buda Company, The..Second Cover

C
Clark Equipment Co., Industrial
Truck Div. 14
Consolidated Freightways 60

D
Darnell Corporation, Ltd. 59
Delta Air Lines 5
Dorsey Trailers 8

E
Eaton Manufacturing Co. 17

F
Fairbanks, Morse & Co. 49
Fruehauf Trailer Co..6 & Third Cover
Fulton Bag & Cotton Mills. 58

G
Gair Company, Inc., Robert. 63
Gerstenslager Co., The 61

H
Hearne Bros. 57
Hyster Company 52

I
International Harvester Co. 10

K
Kennedy Car Liner & Bag Co.,
Inc. 100

L
Lehigh-Horseheads Warehouse
Corp. 60

M
Mobilift Corporation...Back Cover

N
Neil Box Company, Inc. 62

P
Pacific Intermountain Express. 47
Port of Los Angeles 55

S
Stevens Appliance Truck Co. 58

T
Trailmobile Inc. 16

U
United Air Lines 41
United Van Lines, Inc. 62

W
White Motor Co., The 51
Wisconsin Motor Corp. 63

Y
Yale & Towne Manufacturing Co. 18

Within the Law

(Continued from Page 99)

and standard of identity, and that the manufacturer could not escape the impact of Section 341 and Section 343(g) by labeling them imitation jams and by truthfully setting forth on the label the proportions of sugar, fruit and other ingredients contained therein."

Can distributor avoid liability if he sells product under contract containing 'as is' clause?

A distributor wanted to know whether he can avoid all guarantee liability if he sells merchandise under a contract containing an "as is" contract.

The higher courts consistently hold that if a purchaser signs a written contract that merchandise is being purchased "as is," the seller is relieved of future responsibility in event the purchaser is dissatisfied. On the other hand, if a sale is made under a verbal contract, the court will listen to the testimony and decide whether or not the seller is liable on a verbal guarantee. Generally speaking, a verbal "as is" contract is not enforceable.

For example, in *Robin v. Carter*, 77 Atl. (2d) 174, the testimony showed facts as follows: A purchaser claimed he was induced to make a purchase by the seller's verbal presentations that the product was "first class."

The seller denied that he had verbally guaranteed the product or that he had represented it to be "first class" and claimed that he had sold it "as is."

The court considered the testimony and decided since no "as is" written contract was signed by the purchaser, the seller must return the payments and also take back the merchandise.

Consignees always liable for payment of lawful freight bill although carrier miscalculated

A reader asked this question: "Can a common carrier sue and recover from a distributor freight charges originally due, but not paid by the shipper because of the carrier's error in computing the freight charges?"

The answer is yes. See *Fleming and Sons, Inc., v. Gulf, C. & S. F. Railway Company*, 187 Fed. (2d) 536. Here a manufacturer shipped to a distributor two carloads of paper and paid the freight rates thereon as computed and charged by the carrier.

This higher court held that a consignee always is liable for payment of lawful freight charges due on a shipment of merchandise notwithstanding the fact that the carrier miscalculated the freight charges, or for any other reason legal and lawful freight charges were not paid.

This court also held that where the bill of lading is ambiguous, the initial carrier must ship by the cheapest route and neither the shipper nor the consignee is liable for payment of freight rates more than the cheapest legal rates.

—DA—

DISTRIBUTION AGE

222

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